THE PRINCIPLE OF PROPORTIONALITY AND PRECISION WEAPONS
IN THE
LAW OF ARMED CONFLICT

Margaret Alice Cooper

School of Law
Faculty of Arts and Social Sciences
University of Surrey

Supervisors
Dr Arman Sarvarian
Professor Ming Du

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INTRODUCTION

In the modern view of the Law of Armed Conflict (LOAC), the principle of proportionality is seen as progressing from a condition of neglect in the 1990s\(^1\) to a resurgence in interest following the Vietnam War.\(^2\) Within this context, the research question asks whether or not proportionality is being constrained by the deployment of precision weapons. This does not mean that the text defining the meaning of proportionality is challenged, on the contrary, it is in the assessment and application of the text within the particular circumstances of operational missions, that misunderstandings arise and debates as to meanings are revealed.\(^3\)

The links between proportionality and the aspect of “precision” in precision weapons\(^4\) underpins the commentary of the three case-studies, thus, addressing the structure of the thesis, a rigid framework was necessary for containing these assessments, and the use of three case studies provided a simple solution. There are many types of case studies, and the type selected utilizes the facts of each individual study according to a format chosen by the writer as a concrete framework upon which to illustrate the facts of each particular case (these being the wars in Kosovo, Iraq and Afghanistan).

The second major issue of this thesis, the rapid expansion of precision weapons, is illustrated with facts drawn from the conflicts in these three conflicts. The historical tracking of these conflicts, from 1999 to 2012 has the added advantage of being fresh in the minds of readers, and where in some instances, e.g. Afghanistan and Iraq, the military presence continues to the present day.

Central to the structure of the thesis is the temporal triangle, both in diagrammatic form and the written text. It provides the details of the working environment of both proportionality and precision weapons, and is illustrated in the diagrams of the “Temporal Triangle” at the end of each study chapter. The moving bar within each triangle demonstrates how the increasing speed of precision weapons is constraining the decreasing environment of proportionality, thus supporting the thesis claim regarding this constraint.

There are however, several areas where progress is lacking. It is proposed that the widespread lack of State Practice is a serious matter, resolvable only if the majority of world

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3 The issue of semantic vagueness and ambiguity is prevalent throughout the whole field of proportionality, both military and academic.
States publicly declare their positions, on for example the principle of proportionality, thus enabling patterns of State behaviour on the battlefield to gradually emerge. One example being Argentina; “the use of weapons, projectiles or material which can cause unnecessary suffering” is especially prohibited. It adds that ”the projectiles and weapons covered by this prohibition shall be determined solely by the common practice of States to refrain from using certain means of warfare in recognition that they in fact cause such suffering.”5 In addition, many authors call for a single clear definition of proportionality6 which would benefit both the military and the general public alike. Further, the world media is responsible for a major misunderstanding of proportionality, disseminating the idea that its main function is the prevention of collateral damage, whereas it is in fact the attainment of the military advantage.

This area was of interest due to a recognition of the fact that additional research into the principle of proportionality in the LOAC was desirable, that there was increasing debate in the subject between both academics and the military,7 and that the three recent conflicts provided sufficient factual material for such a study.

In sum, it is proposed that the modern, post-Kosovo principle of proportionality is in danger from two scenarios; first, of being totally constrained by the progressive deployment of precision weapons, and second, of being annihilated by the actions of non-State actors in the on-going conflicts in Syria and Iraq. The literary review is sparse; there being only two books specific to proportionality, however an ever increasing body of journal articles is building an impressive body of modern knowledge of the proportionality matrix.

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6 There is no specific definition of the principle of proportionality in the humanitarian conventions but it possesses two properties: firstly the proportionality of means, is found in AP/I Art. 51.5(b) : “an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated” is a proportionality violation; and secondly, proportionality of methods, in AP/I Art. 57.2.(b) where “an attack shall be cancelled or suspended if it becomes apparent that the objective is not a military one or … that the attack may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated”. The first refers to assessment before the attack, the second, to assessment during the attack.

Chapter One: Theoretical Background of Proportionality in the Law of Armed Conflict

Newton and May define proportionality as ‘the rule that limits the severity of lethal force so that it is only properly employed in a way that is commensurate with the goal to be achieved’. The fundamental purpose of the principle is to align, insofar as possible, the scale and intensity of the force employed with that required for the achievement of the military objective. Nevertheless, the fact that they are concerned with such subjective concepts as values and weights leads one commentator to observe: ‘As yet, an explicit and detailed set of norms for the operation of the principle is lacking.’

Definition of the principle of proportionality has long been a contested area but the literature agrees that the rationale of the principle is to “… [balance] the expected collateral

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9 Newton and May above n7 18.

10 Gardam above n1 26.

11 Newton and May above n7 15-16.
damage against a military advantage.”

As a model for civilian protection, proportionality does not operate in isolation but rather interacts with other principles and rules (e.g. – distinction and command responsibility) to fulfil this rationale. Whilst it may appear at first glance that the principle of proportionality is burdensome and unworkable, it has developed over the course of time into a practicable system of civilian protection in tandem with military necessity.

Conceptualisation of these issues concerning meaning and purpose is eased when they are considered in relation to the use of weapons during specific missions. In these situations, the concept of proportionality is ‘boxed in’ factual boundaries with the details of the mission providing the evidence which the texts of the existing treaties cannot provide, themselves being nebulous. As the scholarship has observed, weaponry continues to develop in technological sophistication, enabling commanders to attack targets remotely with ever-diminishing temporal spaces between targeting, decision and deployment.

Consequently, the temporal matrix for proportionality is becoming increasingly constrained. The use of weaponry involves the authority and skill of the military commander in control of the mission under way at a specific point in time; his obligations to both civilians and to own side forces are integral with the ongoing mission and are of increasing interest with the deployment of semi-automated vehicles (‘drones’). The issues raised by drones in connection with the principle of proportionality permeate in particular the last two chapters of this work, where consideration is given to the question of the role of proportionality in the future in the increasing advance of what is termed the ‘new wars and the new laws’.

This chapter will first outline the historical development of the principle of proportionality, particularly the enactment of the key treaty provisions, in order to explain the legal context in which these developments in military technology and tactics are taking place. Second, it will examine the key problem of the status of proportionality in customary

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13 Fleck ed above n8 34; Dinstein above n7 52; Solf above n12 1:117; Reynolds above n12 1- 83; Rogers above n8 21.
international law with reference to the evidentiary threshold for custom and the evidentiary assessment of Rule 14 of the International Committee of the Red Cross handbook on international humanitarian law with particular reference to the textual differences between Additional Protocol I (API)\(^\text{16}\) to the Geneva Conventions and the Statute of the International Criminal Court 1998. Third, it will analyse the applicability of proportionality to non-ratifying States through customary international law.\(^\text{17}\) Finally, it will introduce the theoretical matrix (the ‘temporal triangle of decision-making’) that this thesis proposes for the temporal evaluation of proportionality to conceptualise the operation of proportionality in relation to time.

1.1 The historical development of proportionality

Although the conceptual origins of proportionality in the jus in bello can be traced to jurists and military philosophers of the nineteenth century (e.g. - The Lieber Code),\(^\text{18}\) it was not until API that it was given legal expression. As Rogers explains: ‘The rule of proportionality seems to have achieved widespread acceptance since the 1970s, when there was a determination to avoid the excesses of the Second World War, but there remain differences about the precise formulation of the rule under customary law.’\(^\text{19}\) The advent of the two Protocols had reduced the distinction between the Hague and the Geneva treaties,\(^\text{20}\) and referring to these two treaties, the ICJ was to later observe:

‘These two branches of the law applicable in armed conflict have become so closely interrelated that they are considered to have gradually formed one single complex system, known today as international humanitarian law. The provisions of the Additional Protocols of 1977 give expression and attest to the unity and complexity of that law.’\(^\text{21}\)

Following the Second World War, there was considerable interest in determining the various balances to be struck between the duty of commanders to achieve required military

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\(^\text{18}\) Lieber Code: Instructions for the armies of the United States in the Field, General Orders No. 100, 24 April 1863.

\(^\text{19}\) Rogers above n7; Kalshoven above n17 151, 155.

\(^\text{20}\) Dinstein above n7 13.

aims and the requirements of protecting civilians. At this time an ICRC report to the Conference of Government Experts in 1971 concluded that ‘the need for precautions in attack “has been affirmed by publicists for a long time, but without being expressed in a very precise manner in the provisions of international law in force.”’

Responding to such concerns in addressing the duties of the commander, API Articles 57 and 58 outline these in relation to the principle of proportionality. In addition, API addresses the expanded scope of criminal responsibility for any ‘grave breach’ of the provision – a movement which was to have implications for the Rome Statute.

The scholarship agrees that there is a ‘core of proportionality’ which has existed for as long as the principle itself, which gives stability to the elusive idea of the phenomenon of LOAC proportionality through the use of clear thresholds. These five thresholds are: (1) for war or armed conflict; (2) for the special case of self-defence during war and in other contexts: (3) for emergency situations, such as terrorist attacks, and for other hostile acts committed by non-State actors against States; (4) for the pre-emption of hostilities and the accompanying erosion of human rights and safety; and (5) for areas where States exercise a very high degree of control over the population, such as during occupation or relief operations in the wake of natural disasters. For the purpose of this study, only the first threshold is relevant.

A gradual move by international lawyers towards codifying proportionality was furthered by the controversies concerning US actions (e.g. – the use of napalm and other ‘scorched earth’ tactics) in the Vietnam War. It was commonly held that existing treaty norms were failing to provide the guidance needed by commanders, however, ‘the American military review concluded that even if the provisions of Protocol I had been in

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24 For example, Article 57(2)(a) provides that those planning or deciding upon an attack shall “do everything feasible to verify that the objects to be attacked are neither civilians nor civilian objects and are not subject to special protection but are military objectives within the meaning of paragraph 2 of Article 52.”
25 Newton and May above n7 111.
26 Newton and May above n7 283 - 299.
27 Vité above n8 69, 72.
28 Newton and May above n7 5.
30 Hays Parks above n2 175-177; Reynolds above n12 1-83.
effect during the Vietnam War, for tactical, ideological and technical reasons they would have been of no value. In 1972, in response to a letter from Senator Edward Kennedy, the General Counsel’s memorandum laid out the US military position on collateral damage and distinction, nonetheless, with a warning against ‘… attempts to limit the effects of attacks in an unreasonable manner.’ This fuelled opposition to the ratification of AP I from within the US military and its lawyers.

Although the controversies surrounding the Vietnam War were the catalyst for the adoption of API, there were also examples of restraint exercised by the US military, particularly in the use of precision weapons in the form of laser-guided bombs when targeting points of high strategic importance such as dams and hydro-electric stations. Proportionality was linked to allied rules on targeting and forms part of the rules aimed at limiting so-called ‘collateral damage’ (i.e. – loss of civilian life and property emanating from attacks on military targets). However there remains a high level of disagreement between both civilian and military experts as to its effectiveness in application. This debate varies from the extreme proposition that proportionality can be dispensed with altogether to the other extreme which values it so highly that it be elevated to the ranks of the jus cogens.

1.1.1 The proportionality rule in Additional Protocol I

A major development in the law of armed conflict was the adoption in 1977 of two Protocols Additional to the Geneva Conventions of 1949. Under the heading of international humanitarian law, API to the GC 1949 was the first legal document to formulate a modern concept of the traditional international law of war, limiting the application of lethal force to those directly involved in the hostilities. Several of the rules of API (e.g. - distinction) have their roots in long standing laws and customs of war and, as such, are recognised across many different cultures.

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31 Hays Parks above n2 1, 107.
32 Hays Parks n2 22.
33 Rogers above n8 22.
34 Cannizzaro above n8 notes that critics have ‘tended to highlight its inherent indeterminacy and the subjective character of its assessment.’ 332 - 352.
36 Fleck above n8 38; Newton and May above n7 39, describing how this norm is also used in many legal situations; Dinstein above n7, addressing the law of treaties, where a conflict between a treaty and a peremptory norm of international law, called jus cogens causes the treaty to become void, and further, at 24 the crime of torture was declared jus cogens by the Trial Chamber in the Furundzija case. ICTY Trial Chamber, Prosecutor v Furundzija, Judgement (1998), Case IT-95-17/1, 121; Judge Schwebel and Judge Shahabuddeen above n1 Legality of the Threat of Nuclear Weapons case.
38 Fleck above n8 123 and 401.
The traditional starting-point for the principle of proportionality is Article 51(5)(b) of API which provides: ‘an attack shall be cancelled or suspended if it becomes apparent that the objective is not a military one or … that the attack may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated’. While Article 51(5)(b) of API was based upon nascent State practice (e.g. – at the Nuremberg Military Tribunals in 1946 and particularly the controversies in the Vietnam War preceding the entry into force of API, it was essentially a provision of progressive development at the time that was intended to gain its authority from wide participation in API. At the CDDH, ‘France voted against Article 51, believing that paragraph 5, by its very complexity would seriously hamper the conduct of defensive military operations against an invader and prejudice the inherent right of legitimate defence.’ Upon ratification of API, however, France did not enter a reservation to this provision.

According to the ICRC, as of 26 August 2015 there are 174 parties to API and 2 signatories out of 193 UN members, being one of the highest levels of treaty participation in existence, which is a significant factor in the evaluation of its status in customary international law.

The Serbia (Kosovo) conflict of 1998 was the first international armed conflict in which the legal effects of API were directly applicable. As a treaty, API applied not only between the Federal Republic of Yugoslavia (FRY) and the NATO Member States also party to API (e.g. the UK) but it was also argued that the customary status of many of its provisions rendered them applicable to non-parties to API as well. API is the convention containing the majority of targeting rules; however, several States (e.g. – Israel, Iran, Pakistan, India, Turkey, the USA) remain non-parties to it with the USA claiming that it relies upon the rules of customary international law. This is significant for two potential reasons: 1) that the customary rule is not the text of Article 51(5)(b); or 2) the customary rule is that of Article 51(5)(b) but the non-parties may be ‘persistent objectors’ to it. As Cryer notes that it is now indisputable that API is now custom.

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39 Dinstein above n7 229.  
40 Schabas above n8 125.  
41 The Study above n8 46.  
42 See the UN Treaty Collection online database at: www.treaties.un.org/Pages/UNTSOnline.aspx?id=1.  
43 Fleck above n8 28.  
44 Schabas above n8 494; for further commentary; A Cassese above n7 Commentary on the Rome Statute. 8.  
45 Schmitt above n7 ‘The law of targeting’ in Saxon 132.  
1.1.3 Rome Statute\textsuperscript{47}

The Statute of the International Criminal Court 1998 (‘Rome Statute’) entered into force on 1 July 2002 and as of 26 August 2015 has 123 parties and 16 signatories. The fundamental purpose of the Rome Statute is to provide a legal structure enabling the ICC to investigate and prosecute individuals suspected of having committed the most serious international crimes, namely: 1) aggression;\textsuperscript{48} 2) genocide; 3) war crimes; and 4) crimes against humanity. To date, there have been no trials at the ICC in which a defendant has been charged with the war crime of disproportionate attacks in international armed conflicts. This war crime is defined in Article 8(2)(b)(iv) of the Rome Statute as: ‘Intentionally launching an attack in the knowledge that such attack will cause incidental loss of life or injury to civilians or damage to civilian objects…which would be clearly excessive in relation to the concrete and direct overall military advantage anticipated’.

Historically, war crimes as such were prosecuted as early as the 1920s, the most famous being the series of Leipzig trials,\textsuperscript{49} and similarly, the prosecution of the Turks for the Armenian genocides of 1915 fell within the categories of war crimes under the Treaty of Sevres. This concept of violations of the customs of war continued following WWII with the Nuremburg trials of war criminals. There remained however, scant architecture on the scope and meaning of war crimes and such remained the case until the 1990s. The main issue at this date being the omission of internal armed conflicts from the application of international criminal responsibility,\textsuperscript{50} however this gap was closed in 1998 with the advent of the Rome Statute,\textsuperscript{51} which was ‘…designed to address the lack of enforcement of international law, a dilemma which that has undermined the international community’s credibility because of the high humanitarian cost of the absence of enforcement.’\textsuperscript{52} Part of this failure has been the reluctance to prosecute by the national courts, despite the fact they are under an obligation


\textsuperscript{48} Schabas; above n8 ‘Prospective entry into force: 1 January 2017. The reason being that this will occur only if two-thirds of the States’ parties have given their consent’. 154.

\textsuperscript{49} Schabas; above n8 124.


\textsuperscript{51} The International Law Commission (ILC) is another agency contributing to the foundation of the Court, setting up in 1992 a Working Group to report on the basic parameters of the Court’s jurisdiction on the basis of GA Res 46/54 - ILC Working Group Report; para 2 27 January 1992.

\textsuperscript{52} WR Pace and J Schense ‘The Role of Non-governmental Organisations’ in n7 Cassese 106; In a similar vein, JI Charney ‘Aggressive prosecutions of these grave international crimes are easy to support, but they may also present difficult conflicts with other objectives of the international legal and political system. Prosecutions of international crimes highlight tensions between international politics on the one hand, and the enforcement of the law’s natural-justice goals on the other.’ Editorial Comment. ‘Progress in International Criminal Law’ (1999) AJIL 452, 452.
to prosecute, this being based upon the Geneva Conventions. Cassese notes that ‘however, these provisions on national jurisdiction over grave breaches have been, at least until recent years, a dead letter.’

In addition to the Statute itself; there exists the Elements of Crimes and; the Rules of Procedure and Evidence. Further, ‘— the text of the Rome Statute, reflects the broadly accepted view of State practice – as understood in light of the Elements footnote adopted by consensus, accurately embodies pre-existing customary international law.’ However, it is an open question whether this applies to all of the crimes contained in the Statute, particularly where, as for proportionality, the language of the text diverges from prior treaty law.

The contemporary definition of war crimes is Article 8(2) of the Rome Statute 1998. However, the status of Article 51(5)(b) as custom is challenged by the differing definitions of proportionality in attack as a war crime in international armed conflicts under Article 8(2)(b)(iv) of the Rome Statute 1998, which provides: ‘For the purpose of this Statute. “war crimes” means: of ‘(i)ntentionally launching an attack in the knowledge that such an attack will cause incidental loss of life or injury to civilians or damage to civilian objects… which would be clearly excessive in relation to the concrete and direct military advantage anticipated.’

The two key differences in the text of the Rome Statute from that of API are the inclusion of the words ‘intent’ and ‘clearly excessive’. The term ‘clearly excessive’ was deliberately used by the drafters of the Rome Statute, with Wright noting that the aim of the text was to present a clearer view of what constitutes ‘excessive’ collateral damage. One such situation can arise when a military mission against a legitimate target is being planned, with some expectation of civilian death or injury. These form the basis of scholarly debates in relation to the legal standard of proportionality in international criminal law (applicable to individuals) as against the LOAC (applicable to States).

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53 A Cassese above n44 18.
54 Elements of Crimes of the Rome Statute Article 9 §1. Elements of Crimes shall assist the Court in the interpretation and application of articles 6, 7, 8 and 8bis in Schabas above n8 417.
55 Elements of Procedure of the Rome Statute Article 51 in Schabas above n8 441.
56 Newton and May above n7 114; Schabas above n8 ‘The definition of crimes set out in Article 6-8 bis, as completed by the Element of Crimes, correspond in a general sense to the state of customary international law.’ 92 (These being Article 6, Genocide; Article 7, Crimes against Humanity, and Article 8, War Crimes).
58 Newton and May above n7 160 - 162; Wright above n8 819 - 854; Dinstein above n7 120.
59 Schabas above n8 134 - 135, also for the work of the UN Security Council on the crime of aggression.150; Schmitt ‘Air Warfare’ in Clapham and Gaeta 138; Wright above n7 819 - 854; Lamp above n14 225 - 262; Cullen above n50 419 - 445.
These differences between the two conditions potentially weaken the claim that Article 51(5)(b) reflects a customary rule of proportionality, as the legislation of a narrower provision in a subsequent treaty with 123 parties arguably manifests a lack of opinio juris confirming Article 51(5)(b) as custom. In the absence of case-law at the ICC interpreting Article 8(2)(b)(iv) it is suggested that its plain textual meaning constitutes evidence militating against the exact formulation of Article 51(5)(b) being custom. While this does not undermine the claim to the principle of proportionality in international conflicts as custom - indeed, its inclusion in the Rome Statute would rather be evidence confirming it - it does indicate that the customary rule does not entirely reflect the terms of Article 51(5)(b).

It is possible that the text of Article 8(2)(b)(iv) will be interpreted by the ICC to be harmonious with that of Article 51(5)(b) but this remains to be seen. Whilst Wright opines that the Rome Statute standard ‘raises the threshold’ in relation to AP I, others have interpreted these additions in Article 8(2)(b)(iv) as being aimed at clarifying the standard, not raising it. In the absence of prosecutions at the ICC that would prompt judicial clarification on this point, there are three potential outcomes of the relationship between the rules in API and the Rome Statute. The first is that the two contain identical rules because the Rome Statute additions merely define, but do not change, the legal standard, which results in no divergence between the two. This would appear to contradict the plain meaning of the text, which is the standard approach in the law of treaties.

The second is that there is a difference in the two standards and that the Rome Statute standard displaces the API standard due to the rule of the law of treaties of lex posterior derogat legi priori. This is unconvincing due to the fact that the Rome Statute does not address State responsibility but only criminal responsibility. Consequently, it is argued that the third outcome is the most correct: the two treaties lay down different legal standards for two regimes of responsibility. Thus, the fact that the Rome Statute differs from AP I does not negate the value of the latter for customary international law on State responsibility, which is the next question to be considered.

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60 The Statute of the International Criminal Court 1998 above n47.
62 Wright above n8 ‘The International Criminal Court (ICC) also has subject matter jurisdiction for States Party to the Rome Statute where such damage is clearly “excessive” in relation to the concrete and direct “overall” military advantage anticipated.’ 819, 834; Another view is expressed by the HPCR above n8 ‘The term “excessive” is often misinterpreted… it applies where there is a significant imbalance between the military advantage anticipated on the one hand, and the expected collateral damage on the other.’ 98; Wilmshurst and Breau eds above n8 ‘… ICRC implied no change in the Protocol’s standard.’ 156.
64 Ibid, as above n63 Art. 31(3)(c).
1.2 Custom
The principle of proportionality is traced to Article 51(5)(b) of API to the Geneva Conventions, with scholars claiming that it has attained the status of customary international law (‘custom’). The importance of custom in the field of the law of armed conflict is increasing as treaty frameworks of humanitarian rules are not progressing rapidly enough to adequately address contemporary problems. Moreover, a key problem is the applicability of CIL to those states that are not party to API and other treaties in which the status of proportionality as custom is commonly grounded.

Custom in international law is classically defined in Article 38(1)(b) of the Statute of the International Court of Justice (‘ICJ’) and comprises two well-established elements: 1) the practice of States; and 2) opinio juris sive necessitatis or ‘an opinion as to law or necessity’. Although the existence of this source of law and of these two components is settled, their precise contours are a matter of longstanding and ongoing debate. There is a need to forensically sustain claims to the status of customary international law of individual provisions.

1.2.1 Evidential threshold for custom
There are three leading cases in this area; Asylum, North Sea Continental Shelf and Legality of Nuclear Weapons with each of these being considered chronologically.

The Asylum case illuminates two aspects of customary international law; that of the existence of ‘local’ or regional custom, and the requirement of a ‘constant and uniform

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65 Oeter ‘… the provisions of Articles 51-60. API are mostly considered to represent established rules of traditional customary law.’ in ‘Methods and Means of Combat’, in Fleck above n 8 119; Kalshoven and Zegfeld above n 8. In referring to humanitarian treaties, even before WWII it was considered that the 1907 Hague Convention had acquired the status of customary international law. 4.
66 The Study Vol II: Practice Part 1 above n 8; Heinsch above n 8 in D Saxon, who notes that one of the reasons for the recent rapid growth in the use of customary international law is the establishment of the specialised criminal tribunals which, in lacking any specific jurisprudence, are forced to consider custom as a source. 19.
67 In particular, Article 8(2)(b)(iv) of the Statute of the International Criminal Court 1988, which defines the war crime of ‘Intentionally launching an attack in the knowledge that such attack will cause incidental loss of life or injury to civilians or damage to civilian objects… which would be clearly excessive in relation to the concrete and direct overall military advantage anticipated.’ Schabas above n 8 412.
68 Statute of the International Court of Justice; Article 38 UN Charter (1945) TS 993.
69 Wilmshurst and Breau above n 8 ‘The practice in question, including the States that are “specially affected”, must be “extensive and virtually uniform … and should moreover have occurred in such a way as to show a general recognition that the rule of law or legal obligation is involved.’ 132; Judge Koroma in the “Study”, above n 8. There is no decisive limitation on the time required for State practice to crystallise into custom, what is essential is that “…State practice, including that of States whose interests are specially affected, should have been both extensive and virtually uniform in the sense of the provision invoked…” xlii.
70 Asylum above n 8.
71 Continental Shelf above n 8.
72 Nuclear Weapons above n 8.
usage’. In addition to the general custom referred to in the ICJ Statute local and regional customs also exist in particular areas of a State or in a certain part of the world, as in this case South America, the local custom involved the granting of political asylum by one State to a national of another State. Dismissing the claim, the Court held there was a failure to prove a "constant and uniform usage”, one of the two vital elements required to prove the existence of a customary law which will bind the other party.

In *North Sea Continental Shelf* the dispute concerned the delineation of the coastal continental shelf common to each of the three countries bordering the Baltic Sea. In its Judgement of the Court held that ‘Not only must the acts concerned amount to settled practice, but they must also be such, as carried out in such a way, as to be evidence of the belief that this practice is rendered obligatory— … —The States concerned must therefore feel that they are conforming to what amounts to a legal obligation.’ The Court went on to say that many international acts such as ceremony and protocol, whilst being carried out in a regular manner could not be claimed to be motivated by any ‘… sense of legal duty.’

In *Nuclear Weapons*, the Court held that the States who agree that nuclear weapons are lawful relied upon the doctrine and practice of deterrence; they always reserved the right to use these weapons in self-defence against attack which threatened ultimate State security and the vital interests of the nation. The States disagreeing that nuclear weapons are lawful look to customary international law to determine that the use of these weapons is unlawful; and refer to the constant practice of ‘non-use’ by States since 1945 as expressions *opinio juris* by those who possess such weapons. Further, the Court was unable to find an *opinio juris* in the acts that States had not used them for fifty years.

Referring to the principle of proportionality, and turning to the separate Opinions, of the 13 judges, five specifically addressed proportionality in their Opinions, Judges Weeramantry, Herczeg, Fleischauer, Schwebel and Shahabuddeen.75

73 *Continental Shelf* above n8 132.
74 *Nuclear Weapons* above n8 254 at 67.
75 In his dissenting Opinion, Judge Weeramantry, commenting upon the French position noted that ‘This criticism of proportionality does not itself rule out in principle the utilisation, whether in response or as a matter of first use, of any particular weapon whatsoever, including a nuclear weapon, *provided that such use is intended to withstand an attack and appears to be the most appropriate means of doing so.*’ (French Written Statement, p. 29, emphasis added).” Further, ‘According to this view, the factors referred to could, in a given case, even outweigh the principle of proportionality.’; Judge Herczeg; Dissenting Opinion; ‘… the entitlement to resort to self-defence is subject to certain constraints, and that there is a specific rule…well established in customary international law’ whereby ‘self-defence would warrant only measures which are proportionate to the armed attack and necessary to respond to it.’; Judge Fleischauer in his Opinion - international law and international humanitarian law contain the rules and principles of nuclear war as against the inherent right of self-defence. A threat of nuclear weapons should be compatible with the rules of armed conflict; rules and principles of international humanitarian law which evolved generations before nuclear
The judges had based their judgement upon the requirement of sufficient similarity of the acts which counted as State practice when deciding whether or not such practice when deciding whether or not such practice had hardened into custom, and these acts did not require identical factual details.

In her dissenting opinion, Judge Higgins noted that ‘…[H]umanitarian law is very well developed. The fact that its principles are broadly stated and often raise further questions that require a response can be no ground for a non liquet. It is exactly the judicial function to take principles of general application, to elaborate their meaning and to apply them to specific situations.’ The Court pronounced by eleven votes to three that ‘… There is in neither customary nor conventional international law any comprehensive and universal prohibition of the threat or use of nuclear weapons as such.’

Against this judicial background, other agencies contribute to the continuing development of the evaluation of State practice to determine the status of customary international law, including the International Law Commission. In its draft conclusion 12, on custom, the ILC outlines three modes by which a treaty provision can reflect custom: 1) at the time when the treaty was concluded, codifies an existing rule of custom: 2) has led to the crystallization of an emerging rule of custom; or 3) has generated a new rule of custom, by giving rise to a general practice accepted as law. In its sixty-fourth session in 2012, the International Law Commission took up the ‘identification of customary international law’

He further noted that ‘The rules and principles of international humanitarian law are justiciable yet international law is not yet developed, in either conventional or customary law, a norm of how these principles can be reconciled in the face of nuclear weapons.’ The proportionality principle may thus not in itself exclude the use of nuclear weapons in all circumstances; Judge Schwebel; Dissenting Opinion ‘…“disproportionate to what?”’ it is to the threat posed to the victim State. It is by reference to that threat that proportionality must be measured.”;Judge Shahabuddeen; Dissenting Opinion; The Court had agreed with the General Assembly’s request for an Advisory Opinion, however, the Court had replied by a bare majority that it could not answer the question. ‘Assuming that the use of nuclear weapons is lawful, the nature of the weapons, combined by the limitations imposed by the requirements of necessity and proportionality which condition the exercise of the right of self-defence, will serve to confine their lawful use to that “extreme circumstance.”’

Judge Higgins Nuclear Weapons above n8 at 794. 32.

The International Law Commission; The International Law Commission; a body established by the UN General Assembly Resolution 174 in 1948 for the ‘Promotion and progressive development of international law and its codification.’ see unelections.org. Forming part of the legal framework of the UN, it addresses issues of particular concern brought by the General Assembly, with the aim of providing expert comment towards solutions; their role is however purely advisory. The late Sir Derek Bowett was a member of the drafting committee of the ILC in the early days of formulating a draft of an international criminal court. Working between 1992 - 1996, he set up a “Draft code of Crimes against the Peace and Security of Mankind” (44th Session), with the final draft in the 1996 (48th Session), the draft Statute for the ICC being accepted by the Commission.

Ibid. above n77 35 (para 44) ILC Draft conclusion C.

as a project in its long-term programme of work, and in his third report, Special Rapporteur Sir Michael Wood outlined the problem of identifying customary international law based upon underlying treaties as follows:

‘Treaties purporting to codify rules of customary international law, however “are not self-verifying on that point”. Codification conventions may (and often do) contain provisions that develop the law or represent particular arrangements decided on by the negotiating parties, and even a single provision may be only partly declaratory of customary international law. There is also the possibility that the assertion in a treaty text regarding the status of customary international law is incorrect, or that customary international law has evolved since the treaty was concluded. It is thus necessary in each case to verify whether the provision in question was indeed intended to codify custom, and whether it reflects customary international law, that is, it is necessary to confirm that “the existence of the rule in the opinio juris of states is confirmed by practice”. Examining practice outside the treaty, i.e. that of non-parties or of parties towards non-parties, may be particularly important.’

In the Reports of Michael Wood addressing the work of the ICTY, two judicial approaches are noticeable, those in which both elements of customary international law are deemed to be necessary, and those in which a single element has been found to be sufficient in the circumstances. In the former, where the tribunal was employed in determining its jurisdiction, it was held that presence of the two elements of opinio juris and state practice was essential in this respect. Conversely, there were Tribunals where the two elements were not clearly established; in Prosecutor v Kupreškić, the Trial Chamber held that a rule of custom could emerge through a process under demands of humanity or of public conscience, even where State practice is scant or inconsistent, the scale of the immediate atrocities being so great that the presence of any State practice would be difficult to determine.

Another organ of the United Nations, the Security Council, has adopted only two resolutions which infer, but do not specifically name, the principle of proportionality in

82 above n81 Prosecutor v Kupreškić.
armed conflict. These references appear in Resolution 1160 (“Condemning the use of excessive force by Serbian police forces against civilians and peaceful demonstrators in Kosovo”)\(^83\) and Resolution 1199 (“Gravely concerned at the recent intense fighting in Kosovo and in particular the excessive and indiscriminate use of force by Serbian security forces and the Yugoslav army”\(^84\)). There are no references to SC Resolutions in the First Report of Sir Michael Wood. One reason, it is purported, is the inconsistency of the Security Council in the application of principles in like cases. A further consideration is the binding effect of customary rules: ‘… if Security Council acts (and as a subsidiary matter, statements of Council members during meetings of the Security Council) are relevant to custom then those same customary rules would bind the UN (and the Council as an organ of the UN), which raises important considerations with regards to the perennial debate about what legal limits apply to the Security Council.’\(^85\)

The evidentiary standard is at present set by the courts, international,\(^86\) (e.g. for settled practice in custom); domestic courts, and those of the ad hoc Criminal Tribunal type. Referring to the ICTY, ‘…although the Tribunal’s jurisdiction is defined by Statute, reliance on customary law ensures that the principle of legality\(^87\) is respected even where the alleged crimes occurred before the Statute entered into force.’\(^88\) Central to the customary law debate remain the two elements of State practice and opinio juris, where the views of commentators oscillate between those who consider both elements are required to fulfil the element of custom, to those with the view that State practice alone is sufficient\(^89\), and finally to those who quote Cheng\(^90\) on the possibility of “instant” customary law where, due to exceptional circumstances and the absence of relevant law, the issue of State practice needs to be

\(^{86}\) Continental Shelf above n8 Judgement. I.C.J Reports (1969) 44 at 77; Cryer above n46 ‘The evidentiary threshold for custom in the law of armed conflict is determined through four processes; the law of treaties; the law of custom; the use of military manuals to determine State practice; and official statements by authoritative sources.’ 239, 257.
\(^{87}\) This principle ensures that a criminal conviction is based on a legal rule established at the time of the offence. Meron above n8 ‘Customary International Law Today: From the Academy to the Courtroom’ in A Clapham and P Gaeta 41; Cryer above n46 239-250.
\(^{88}\) Meron above n8 Clapham and Gaeta 41.
\(^{89}\) Wilmshurst and Breau above n8 ‘However, it is essential to keep practice at the forefront of any analysis, as customary law emerges only through State practice characterised by opinio juris.’ 132.
dispensed with. In addition is the question of *jus cogens*, whose imperative power is informing the debates concerning compliance by both States and individuals.

These disparate issues form part of the jurisprudence of the ICC, in which the fora for the discussion of customary law is considerably widened. From it’s central tenet of criminalizing the individual and not the State, to the reception of new words into the lexicon of the ICC (e.g.) “clearly” and “intent”, customary international law is under increased scrutiny, with the literature reflecting the resulting tensions and outcomes. In relation to this, Gardam reminds the reader that the single function of the principle of proportionality is to reconcile military necessity with the security of the civilian population. However, separating this apparently simple detail from the accretions of history and placing it into contemporary military practice is a complex problem which, with the passing of time, brings new issues from the field of technology.

From the military viewpoint, proportionality was unheard of officially prior to the 1990 Iran/Iraq war. Earlier, the conflict in Vietnam had been the pivot which swung public opinion in favour of providing legal protection for the civilian. The use of chemical agents by US forces to destroy forests and crops, and therefore deny cover for the enemy forces was widely used between 1962-7, however this ‘Agent Orange’ resulted in widespread death and injury among the civilian population without achieving the intended military aim. Words and phrases such as *collateral damage* entered the vocabulary of the LOAC, and from such failures developed pressures from agencies like the ICRC for the codification of principles in the field of civilian protection which led eventually to the formation of API.

API provided the foundation for new guidelines within the Military Manuals of individual States and the details of how different States responded during the drafting and ratification of these rules generate issues to the present day. One perennial problem emerging from the negotiations, and which persists to the present day, is the issue of the relationship between the new treaties (API and APII), and customary international law.

1.2.2 Rule 14 - proportionality as custom - API v ICC

The principal formulation of the customary principle is commonly taken from Rule 14 (‘Proportionality in Attack’) of the ICRC Customary International Law Handbook: ‘Launching an attack which may be expected to cause incidental loss of civilian life, injury

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91 Gardam above n1 94.
92 Gardam above n1 19.
93 ‘Agent Orange’ is not the same as napalm, x/r Reynolds above n12 83; Solf above n12 125.
94 The Study, above n8.
to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated, is prohibited.’ 95 In the commentary to Rule 14 (‘Proportionality in attack’), the ICRC based this formulation upon Article 51(5)(b) of API - which is textually identical - and also cited a number of sources (e.g. – military manuals, national and international criminal jurisprudence and other treaties) to illustrate its subsequent adoption in state practice. Thus, the status of the principle of proportionality as customary international law rests upon the third of the grounds articulated by the ILC in that Article 51(5)(b) of API ‘generated a new rule of customary international law, by giving rise to a general practice accepted as law.’

However, as the ILC explains, the treaty rule itself does not affirm the customary rule, though it may be its source. Rather the rule as custom must be sustained by subsequent State practice and *opinio juris*. This distinction is important because of the question of the applicability of Article 51(5)(b), rather than the whole of API, to non-parties to API as custom. This explains the references in the ICRC Commentary to Rule 14 to the sources subsequent to the entry into force of API n7 December 1978. While the ICRC Study has been criticised for failing to forensically sustain all of its claims of customary status for the rules that it propounds (e.g. - Rule 45 on damage to the natural environment), the claim to customary status of Rule 14 in international armed conflicts appears to have been generally accepted in the scholarship.96

Despite the plaudits given to the ICRC study, some criticisms have also been made.97 One example being that the Study places too much emphasis on written materials, such as military manuals and other guidelines published by States, as opposed to actual operational practice by States during armed conflict. “Although manuals may provide important indications of State behaviour and *opinio juris*, they cannot be a replacement for a meaningful assessment of operational State practice in connection with actual military operations”.98 In addition, The United States also questions the rigour of the Study: ‘... for many rules proffered as rising to the level of customary international law, the State practice


96 Mero above n8 in Clapham and Gaeta 46; Wilmshurst and Breau above n8 403, 405; D Fleck above n8 593, 1205; Kalsoven and Zegveld above n8, also at 434 n 163.

97 For a detailed critique; Cryer above n 46; D Bethlehem in ‘The Methodological framework of the Study’ in Wilmshurst and Breau above n8; I Scobbie ‘The approach to customary international law’ in Wilmshurst and Breau above n8.

98 Bellinger III and Haynes II above n8 443, 445.
cited is insufficiently dense to meet the “extensive virtually uniform” standards generally required to demonstrate the existence of a customary rule’. The text of the ICRC Study itself proposes that the “… only relevant acts are those of State practice.” One example being the practice of Russia which considers the principle of proportionality the “weakest point of IHL because...In the armed forces of the CIS countries there are neither provisions defining the terms of the respect of the principle of proportionality nor provisions envisaging prosecution of individuals who violate this principle.

Aldridge posits two thoughts on the matter. Initially it is claimed that the authors (of the Study) utilized customary international law in attempts to simplify articles of API, whereas complexity in a text is frequently desirable in order to facilitate discussion and choice of response. It is however, his second criticism is more serious; ‘Their principal mistake is to claim customary law status for some simplified rules that would not have been accepted in the negotiation of Protocol I and would not be accepted today by many States.' In this context, the question is whether Rule 14 of the ICRC study, which is identical to Article 51(5)(b), can be shown to reflect the customary standard.

Despite objections made to the methodology of the ICRC Study and ongoing disagreement as to interpretation, since the founding of the ICC in 1999 the contemporary textual definition of proportionality has continued to be accepted by States. Thus, it is submitted that there is widespread acceptance by States of the principle of proportionality as embodied in Rule 14 as the customary standard for international armed conflicts. It has taken more than 150 years for proportionality to evolve into its present form in API, and ultimately, into the Rome Statute. While the textual divergence between the two instruments potentially reflects a higher standard of proportionality for the purpose of individual criminal responsibility as opposed to State responsibility as reflected in API, the existence of both rules with relatively high numbers of ratifications evinces proportionality in international armed conflicts is custom, albeit to slightly different standards for two purposes. This is further affirmed by the evidence of State practice and *opinio juris* endorsing Rule 14 of the ICRC Handbook.

99 Bellinger III and Haynes II above n8 443, 444.
100 Wilmshurst and Breau above n8 25.
101 The Study above n8 314 § 107.
102 The Study above n8 315.
104 Aldrich above n103 503, 523.
105 Newton and May above n7 100-112.
In a similar vein, but against the particular national background of Israel, Cohen and Shany propose the use of their three tests for proportionality construction could contribute towards the further development of the principle of proportionality under international humanitarian law. Additionally, they suggest that the use of robust institutional requirements leading to increased clarity in textual meaning could assist the work of the ICC in cases concerning culpable personal responsibility in command responsibility.106 The authors do not propose any indication that a clear rule of proportionality has emerged at this point, but the paper contributes to the continuing conversation concerning this important humanitarian principle.

In considering proportionality in relation to targeting, Ohlin opines that the principle remains vague and elusive for one major reason at least, because the courts have rarely, if ever, convicted anyone of violating the proportionality rule, and there are no judicial decisions available on what is, or should be, the precise parameters of the proportionality principle. There is at present no widely accepted rule of proportionality. “Proportionality is obviously linked to targeting, but the legal rule is ‘notoriously difficult’ to apply during the heat of battle.”107

Which leads to the application of the principle of proportionality in relation to the development and deployment of new weaponry. There are three points to be addressed here; first, there is the applicability of the principle to states that have not ratified API and/or the Rome Statute and may consequently regard themselves as ‘persistent objectors’ to a customary rule of proportionality in international armed conflicts. Second, there is the controversial customary status of the principle in non-international armed conflicts despite the absence of a basis in either API or the Rome Statute. Third, there is the potentially differing standards in relation to international armed conflicts between API and the Rome Statute.

 Whereas the previous narrative has noted the historical existence of custom, there is contemporary evidence of some States claiming the “need” for custom to suit its particular


107 Ohlin above n15 27, 43.
stance, and this is evidenced by attempts by non-ratifying States to claim the status of persistent objector.

1.2.3 Application of the customary rule to non-ratifying States

Despite the acceptance of proportionality as a customary rule applicable to international armed conflicts, there is the possibility of non-parties to API claiming the status of ‘persistent objector’. The role of the ‘persistent objector’ is part of the creation of customary international law, forcing debate upon areas of uncertainty in the specific case. One commentator proposes that ‘… the most favourable argument from the objecting States point of view would be that because they are “specially affected” States, the rule has not become customary law. The concept of “specially affected” States was set out by the ICJ in the Continental Shelf where it stressed that practice must include that of such States and has been interpreted to mean that no customary rule can develop if these States do not accept the practice.’

There are two attitudes non-ratifying States can take; either, as is the case with the USA, the customary rule is not the text of API Art 51 or, the customary rule is the text of API Art 51, but the non-parties may be persistent objectors to it. Opposition to API, specifically the principle of proportionality as laid down in API Art 51(5)(b) was most publicly articulated by the USA, their view being that it would hamper their inherent right of self-defence. The importance of this claim lies in the fact that, as one of the most powerful members of the P5, legal positions taken by the USA and other members influence the continuing development of customary international law.

This is a complex area, demanding precise evidence of practice, however the bench of an international court is constituted by judges from all areas of the world, each possessing their own cultural views as to what forms customary law may take in both theory and practice. This new “need” is the reduction of State practice (the objective element), and increased reliance upon opinio juris (the subjective element), thus distorting the historical balance between the two elements. As Guldal notes, ‘As customary international humanitarian law in general is experiencing a tendency to let the lex ferenda conflate the lex lata, attempts by certain States to object to the development of new rules have been met with resistance.’

108 Kammerhofer above n61 523-550; Fleck above n8 52-3.
109 Continental Shelf above n8 74.
111 Guldahl above n110 51, 86.
If there is the possibility of non-parties to API claiming the status of ‘persistent objector’ the burden of proof would be on the objector to show that it is an objector and that the burden has been held by the ICJ to be a high one.\textsuperscript{112} Of the P5, only the USA is not party to API, and the US Naval Handbook 2007 codifies the principle of proportionality in the exact terms of the API test.\textsuperscript{113}

It is arguable that the USA and other non-parties have discharged this burden through their continuing opposition to API Article 51(5)(b). One sign of such constant opposition would be the following; on the 6th May 2002, the US Government sent the following communication to the Secretary-General of the United Nations; ‘This is to inform you, in connection with the Rome Statute of the International Criminal Court adopted on July 17, 1998, that the United States does not intend to become a party to the treaty. Accordingly, the United States has no legal obligations arising from its signature on December 31, 2000. …’.\textsuperscript{114} Nevertheless, the Report on US Practice states that “United States practice recognises the principle of proportionality as part of the customary law of non-nuclear war.”\textsuperscript{115}

A key question is whether Rule 14 of the Study applies to those States that have not ratified API, particularly the permanent five members of the UN Security Council (‘the P5’) as the most important States for the purposes of new weaponry due to their advanced militaries and high GDP spending on military research and development.\textsuperscript{116} (Despite not being a signatory to API, the US is one of only a few States to have adopted formal review processes.)\textsuperscript{117}

Referring to the P5, France\textsuperscript{118} had, upon ratification of API stated “… the Government of the French Republic considers the first sentence of paragraph 2 of [Article 52] prohibits only such attacks as may be directed against non-military objects. Such a sentence does not deal with the question of collateral damage caused by attacks directed against military objects.”\textsuperscript{119} The United Kingdom of Great Britain and Northern Ireland made

\begin{footnotesize}
\begin{enumerate}
\item \textit{Asylum} above n8.
\item The principle of proportionality requires the commander to conduct a balancing test to determine if incidental injury, including death to civilians and damage to civilian objects, is excessive in relation to the concrete and direct military advantage expected to be gained…’ The US Naval Handbook (2007) The Commanders Handbook on the Law of Naval Operations.
\item Schabas above n8 494.
\item The \textit{Study} above n8 319 § 127.
\item J Kellenburger ‘… a number of states tend in practice to distinguish between rules they specifically agreed to, and rules of customary international law, even though traditional and custom are considered equivalent sources of international law.’ in ‘The Role of the ICRC’ above n8 in Clapham and Gaeta 28 n184.
\item Haines above n8 ‘The Developing Law of Weapons’ in Clapham and Gaeta 287 n36.
\item The \textit{Study}; above n8 16 § 88.
\item The \textit{Study}; above n8 Declaration and Resolution made upon ratification of API 11th April 2001 §12.
\end{enumerate}
\end{footnotesize}
the following Declaration; ‘…that Article 51(5)(b) was a “useful codification of a concept that as rapidly becoming accepted by all States as an important principle of international law relating to armed conflict.”120 Neither China, the Russian Federation or the United States entered a reservation or declaration. In addition, the USA also questions the rigour of the Study: ‘…for many rules proffered as rising to the level of customary international law, the State practice cited is insufficiently dense to meet “the extensive virtually uniform” standards generally required to demonstrate the existence of a customary rule’.121

Thus, even if Rule 14 can be said to reflect customary international law for the purpose of State responsibility122 in international armed conflicts, the discharge of the persistent objector burden by the non-participating States in API restricts the applicability of the customary international law rule to them as the principle of proportionality inhibits the use of these weapons. As these are some of the most important States in the world in the development of new weaponry in research and development this is an important limitation. Nevertheless, this does not undermine the study of the temporal compression in a commander’s decision-making in proportionality for new weaponry, not only because others of the P5 (e.g. the UK) accept proportionality in international armed conflicts but also because other States that accept proportionality can acquire such new weaponry from the main suppliers.

Meron makes the important point that the behaviour of ‘persistent objectors’ in the formation of customary international law is equally as important as that of belligerents,123 and as a further point of interest, Fleck notes that the First and Second Gulf conflicts, together with Afghanistan and Iraq, were fought mainly by the armed forces of states not subject to the rules of API, ‘…which renders serious comment on the practical effects of the provisions of API almost impossible.’124 This paradox is joined below by another issue which remains a severe problem in the LOAC, the difference between international and non-international

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120 United Kingdom’ Statement at the Diplomatic Conference leading to the adoption of the Additional Protocols (ibid § 114). Further, ‘The United Kingdom understands the term “the established framework of international law”, used in Article 8(2)(b) and (e) to include customary international law as established by State Practice and opinio juris. In that context the United Kingdom confirms and draws to the attention of the Court its views as expressed, inter alia, in its statements made on ratification of relevant instruments of international law, including the Protocol Additional to the Geneva Conventions of 12th August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I) of 8th June 1977.’ above n1 W Schabas 504.

121 Bellinger II and Haynes III above n8 443, 444.


123 Meron above n106 238, 248-9.

124 Fleck above n7 119.
armed conflicts, although ‘…customary international law is certainly not confined to “wars”, it applies to international armed conflicts and non-international armed conflicts.’

1.2.4 Application of proportionality to non-international armed conflicts. More controversial, however, has been the claim that proportionality in attack applies to the same standard in non-international armed conflicts despite the lack of an equivalent provision in APII to that of Article 51(5)(b) in API. This is compounded by the different approaches to proportionality taken in the Rome Statute: Article 8(2)(b)(iv) which prescribes the war crime in international armed conflicts. Significantly, this war crime is not replicated in the Article 8 (c) list for non- international armed conflicts, a point to be discussed in the following chapter.

Doctrinally, as these conflicts do not meet the standards required for international armed conflicts (IACs), the standard threshold of protracted armed violence is determined by the presence of two elements namely “intensity” and “organization”, the intensity of the violence together with the level of organisation within the groups involved. Recognising the usual chaotic nature of these outburst, each is assessed on a case-by-case basis. In contrast with CA3, a more restricted standard is necessary with an APII outbreak, where the level of organisation is particularly high together with control of sufficient territory to enable the group to ‘… carry out sustained and concerted military operations and to implement this Protocol.

Prior to the statute of the ICC, only the rules of the Hague and Geneva conventions applied in international law. Schabas notes there was little evidence that the concept of international criminal responsibility reached as far as NIACs, with this remaining unaltered with the adoption of API and APII. The first definitive step was the adoption by the Security Council of the International Criminal Tribunal of Rwanda (ICTR), November 1994, with this being followed in 1995 when the Appeals Chamber in Tadić affirmed that, as part of the development of custom, international criminal responsibility could be assigned to NIACs, this being later confirmed by the Rome conference of 1998.

125 MOD above n37 29. 323.
126 The two main treaties being; Article 3 common to the 1949 Geneva Conventions and Article 1 of APII 1977.
127 Newton and May above n7 117.
128 Vité above n8 69-76.
129 Vité above n8 69,79; MOD. This states that while these two treaties govern the majority of the rules in a NIAC, other treaties apply in both IACs and NIACs, for example Amended Protocol II of 1996 to the Conventional Weapons Convention. 389 n23.
130 Schabas above n8 123.
131 Tadić (IT-94-1-AR72). Decision on the Defence Motion for Interlocutory Appeal on Jurisdiction, 2 October1995, paras 100-1.
132 Schabas above n8 124-5.
Traditionally, States did not desire any external interference in the way they conducted their external affairs which impinged upon their sovereignty and subject matter of jurisdiction, one of which was engaging in armed conflict. The main difference between an international and a non-international armed conflict depends solely on the parties to the conflicts: in an IAC there are two or more states involved, while in the NIAC the conflict is between a state and organized non-state armed groups, or between such groups. Any conflict between two or more states (IACs) is governed by the Geneva Conventions, 1949: however conflicts between parties within a state, (NIACs), there is no definition of combatant status or obligations, or indeed for the combatant status itself.

Nevertheless, Schindler writes that, over time, these disparate areas appearing in both IACs and NIACs have been drawing closer together. Defined in the Tadic decision this was a clear response to the increasing levels of atrocities being committed within such internal wars were of such an extent that world opinion could no longer be ignored and such behaviour became the concern of the international community as a whole. Following Tadić, the difference between IACs and NIACs is now obsolete under the aegis of the criteria of War Crimes in the Rome Statute.

Coming in the wake of Tadić which had confirmed the fact that international criminal responsibility could attach to military commanders during the course of an internal conflict, Article 8 of the Rome Statute was considered to be a progressive development over previous humanitarian treaties. This consists of two categories of war crimes; those in IACs and those in NIACs. Schabas writes that ‘…subject to a few minor exceptions, paragraphs (c) and (d) of Article 8(2) apply to non-international armed conflicts contemplated by Common Article 3 of the four Geneva Conventions, while paragraphs (e) and (f) apply to non-international armed conflicts within the scope of Additional Protocol II.’

Thus, at present, there is no rule on proportionality in non-international armed conflicts in APII or Rome Statute, neither is there a customary rule as evidence of State

133 Schabas above n8 142; E David ‘Internal (Non-International) Armed Conflict’ above n7 Clapham and Gaeta eds 353.
134 Cullen above n50 419 - 445.
135 (ICTY), The Prosecutor v Tadic, Case No. IT-94-1-AR72, Appeals Chamber Decision on Defence Motion for Interlocutory Appeal on Jurisdiction, 2nd October 1995; W Schabas above n8 124 - 5 also 325; Aldridge above n103 503, 507.
137 P Gaeta ‘War Crimes and other International “Core Crimes”’ above n8 Clapham and Gaeta 746; Schabas above n8 142 - 3; David above n8 Clapham and Gaeta 355.
138 Schabas above n8 126.
139 Schabas above n8 143.
practice. This is an important limitation on the applicability of proportionality due to the fact that many, if not most, of the armed conflicts taking place in the twenty-first century are non-international armed conflicts.\textsuperscript{140} In this thesis, this is the case with Afghanistan\textsuperscript{141} and Iraq,\textsuperscript{142} whereas the bombing campaign by NATO forces in Serbia (Kosovo) was an international armed conflict. Although this necessarily constrains the application of the rule, the value of the study of the temporality of the commander’s decision-making remains valid due to the possibility that proportionality will be extended to non-international armed conflicts in the future.

1.3 The commander and the element of time

The rationale of this thesis rests upon the length of time available to the commander to interpret information into an attack decision. A strong reason for focusing upon the element of time is given by Kolb and del Mar:

‘…the law of armed conflict is designed to apply in situations of great social and psychological stress, namely during warfare. In such situations there is usually no time and no possibility to consult legal writings or to have complex discussions about how to balance general principles in order to shape a contextual rule… there must be ready-made and concrete rules at hand.’\textsuperscript{143}

Since the Vietnam war, emerging technology has engendered corresponding development in the law of armed conflict. Whereas at the time of Vietnam, due to the weaponry available at that time, military commanders had sufficient time to plan the ROE, however in contemporary warfare the rise of robotic weaponry means that ‘… as the complexity and speed of these systems increase, it will be increasingly limiting and problematic for performance levels to have to interject relatively slow human decision-making into the process.’\textsuperscript{144}

Recalling the statement by Newton and May addressing those ‘… soldiers and leaders who are making decisions on the ground and do not have time to make complex proportionality decisions.’\textsuperscript{145}, all their evaluations should rely on sound and unbiased information, however ‘Commanders trying to “manage” this situation may be overwhelmed

\textsuperscript{140} Cullen above n50 419, 442; The Study vol. 1: Rules above n8 48.
\textsuperscript{141} Chapter Three. Iraq. pp 71-103.
\textsuperscript{142} Chapter Four. Afghanistan. pp 104-130.
\textsuperscript{143} Kolb and del Mar ‘Treaties for Armed Conflict’ above n8 Clapham and Gaeta 51-52.
\textsuperscript{144} Marchant \textit{et al} above n14 272, 275; Oeter above n8 in D Fleck ‘Yet the logistics of such mission parameters are so complex and depend on so many factors that it is impossible to express the consequences of distinction and proportionality in a precise formula.’ 201.4.
\textsuperscript{145} Newton and May above n7 283.
by the amount of information sent to them, creating a new virtual kind of “fog of war”.\textsuperscript{146} Problematically, the amount of information now available to commanders frequently leads to information overload which further leads to mistakes and delays in his assignment,\textsuperscript{147} leading to what the author describes as warfare leaving the human space.

Lippman notes that ‘… the Kosovo campaign was the culmination of the trend towards “virtual war” in which militarily sophisticated Western regimes relied on precision bombing and high technology to intervene in industrializing and militarily weak territories to protect human rights.’\textsuperscript{148} This trend continues ruthlessly, as powerful States with large economies continue to dictate the levels of available weaponry and in some cases influence the courses of the developing law, thus the deployment of this weaponry is exerting tensions upon the existing laws of conflict, upon the “concrete rules” mentioned earlier.

The task of the commander lies at the meeting point of weaponry and legal doctrine, however at the present time ’The lack of technological and doctrinal convergence supporting less lethal and destructive armed conflict means that IHL is left with long-standing problems and emerging conundrums… the availability of precision or “non-lethal” weapons does not resolve these questions.’\textsuperscript{149} Further, Myers notes that if this trend towards a fully automated air defence system continues, by the year 2020 most of the Western forces will have the capacity to deploy semi-autonomous weapons with the ability to perform the whole range of operations.\textsuperscript{150} Following this argument to its logical conclusion, is it possible to foresee the demise of the commander, together with the extinction of the warfighter altogether.\textsuperscript{151} These issues, embedded in the element of the time factor, are considered in the following conflict studies.

1.5 The Temporal Triangle

A brief outline is given here of the temporal decision triangle, further described in more detail in graph form in the three conflict studies. In addition, the quotation by Kolb and del Mar is repeated here due to its focus upon the element of time:

‘…the law of armed conflict is designed to apply in situations of great social and psychological stress, namely during warfare. In such situations there is usually no time

\textsuperscript{146} Saxon above n8 in Saxon 3.
\textsuperscript{147} TK Adams ‘Future Warfare and the Decline of Human Decision making’ (2011-12) Parameters 1-15. (This article was first published in the Winter 2001-2 edition of Parameters). 1, 5. also at 1, 1-2.
\textsuperscript{148} M Lippman ‘Aerial attacks on civilians and the Humanitarian Law of War; Technology and Terror from WW1 to Afghanistan’ 33 Cape Western International Law Journal (Fall 2002) 1. 55.
\textsuperscript{149} Fidler above n8 in D Saxon 336.
\textsuperscript{150} A Myers ‘The Legal and Moral Challenges Facing the 21st Century Air Commander’ (2007) 10 Air Power Review No.1 Spring. 76, 78.
and no possibility to consult legal writings or to have complex discussions about how
to balance general principles in order to shape a contextual rule… there must be readymade and concrete rules at hand.\textsuperscript{152}

How much time a commander needs to make a reasoned decision, and how much time he actually has, are two separate and urgent issues, but what can be said at this point is that the high speed of contemporary weaponry is pushing his available decision time into the zero sector.

To this end, and building on the existing scholarship that examines the issue of temporality in proportionality in relation to decision – making time for commanders,\textsuperscript{153} this thesis proposes a theoretical model for the conceptualisation of this issue. There are four issues at play here, all operating during the same time as a military attack is operational; proportionality, distance, speed and time. These are linked together ontologically in an environment which is in itself dynamic and unpredictable. The units within the triangle are relatively predictable in that speed and distance can be precisely calculated, the one variable being the subjective issue of proportionality.

Due to the use of the new precision weapons, could this compression of the time available for such judgements be so reduced that any consideration of the civilian, either as an individual or a population, is reduced almost to a zero, there is no temporal space for factoring in the human element in the face of the military advantage. Recalling that the thesis question asks what, if any, changes in the practice of modern conflict could impact upon proportionality, it is this reduction in the time/decision ratio. If, as is claimed, proportionality reflects the concepts of humanity, this requires some time at least for a subjective assessment of the current situation by those in command. Should this reflective window be reduced to almost vanishing point, the anomaly is raised that the weapons designed to increase the accuracy of target strikes and therefore reduce collateral damage are themselves denying the commanders the chance to make choices which could limit the number of civilian casualties.

Referring to the method, the two variables are speed and time. Even without the support of computer algorithms, it is true that the greater the speed of the weapon in reaching its target the less time there will be for the commander to make rapid decisions in the heat

\textsuperscript{152} Kolb and del Mar above n143 ‘Treaties for Armed Conflict’ in Clapham and Gaeta \textit{The Oxford Handbook of International Law in Armed Conflict} 51-52.
of battle, ….those who do not have the time to make complex proportionality calculations when under the stress of battle situations.\textsuperscript{154} There are occasions where time is so important that the planners and commanders are by-passed, and the relevant instructions are fed directly to the pilot in the cockpit, and ‘… collapsing decision-making timing dramatically’.\textsuperscript{155}

The problem of determining a purely objective decision from standards which have been previously reached subjectively remains a point of dissention between writers, amongst others Wright suggests a hybrid standard for use by the commander as increased clarity equals a reduction in the time taken to make decisions.\textsuperscript{156}

However, what is appearing over time is a pattern. Where military strikes are successful on the first attempt, very few if any civilian casualties are recorded; it is however where a second follow-up strike is required, where the commander has little or no time at all to re-assess new information including a proportionality calculation, that excessive collateral damage may result.\textsuperscript{157} The amount of available time may also be dictated by the size of the military unit involved. Where there are large numbers involved, such as brigades or squadrons, the planning facilities available to their commanders will necessarily be larger and provided with more sophisticated systems for dealing with changing tactics and incoming information; where however maybe a small unit of men is deployed in the field, their access to critical information may be less robust, resulting in more intuitive decision-making by their direct commander. ‘Decisive here is not so much a particular level of command as, rather, the combination, within a given time frame, of freedom of choice of ways and means and availability of information.’\textsuperscript{158}

This mixture of compression of time, human mistake, and secondary air-strikes are developing this pattern of unforeseeable error which is considered throughout the three case-studies.

There is now notice being taken that ‘Unplanned strikes, however, do not allow the military sufficient time to thoroughly estimate collateral damage.’\textsuperscript{159} Adams notes that

\textsuperscript{154} Newton and May above n7 11.
\textsuperscript{156} Wright above n8 ““Excessive” ambiguity: analysing and refining the proportionality standard’ (2012) International Review of the Red Cross 819, 840.
\textsuperscript{158} Kalshoven and Zegveld above n8.
\textsuperscript{159} Groves above n157 1, 5. at n32.
‘more and more aspects of warfighting are not only leaving the realm of human senses, but also crossing outside the limits of human reaction times.’ 160 Within these parameters is information, and the ‘… proliferation of information-based systems will produce a data overload that will make it difficult or impossible for humans to directly intervene in decision making’. 161

‘Many of the objections to the use of proportionality focus on how hard it is for commanders to make such calculations when they are in battle or in other situations where quick decisions need to be made and where there is no time for elaborate calculations’. 162 This statement justifies the claim made at the beginning of this study that the principle of proportionality is in danger of being affected by the use of such weaponry, although it is regrettable that at this point in time there is not more detailed accounts available.

There are two points to be made; first, when referring to the use of gravity bombs, it is the speed of the aircraft delivering them from the aim point (an airfield) to the target that is important. The bombs themselves fall according to the laws of gravity. Second, as the speed of aircraft increased, parallel advances in the field of weapons technology meant that the weapons themselves acquired guidance systems which enabled them to perform tasks according to pre-set computerised programmes, whether they were released by aircraft or fired from ground based launch pads. 163

In the early phases of the Kosovo conflict the majority of weapons used were the dumb free-fall bombs, dropped by B1 and B-52 aircraft of the US Air Force. However, as the campaign escalated, up to 90% of all weapons used were of the precision type. 164 used is the B-52 Stratofortress bomber, a heavy duty machine used initially in the Vietnam war and in constant service since. Its place in the Kosovo campaign was part of the strategy to force the enemy into abandoning its progress into Kosovo, a strategy involving both bomber and fighter aircraft of the NATO allies. The A-10 aircraft was chosen for both its relatively slow speed and the type of mission of assignment (Exact specifications of aircraft performance is given below the diagram).

The diagram illustrates the relatively slower rate of delivery, both of the speed of the aircraft itself and of its load of gravity bombs upon release, which provided commanders

160 Adams above n147 1, 2.
161 Adams above n147 1, 2.
162 Newton and May above n7 11.
164 The Oxford Group Workshop Report ‘Proportionality in War’ 1,4.
with sufficient time for decision making, including assessment and application of the proportionality principle.

It is proposed that this triangle offers a simple working model, easy to imagine and keep in the mind, of what is involved without having to think of numbers and risk factors, not only for the military but also, and increasingly so, civilians involved for example, in affiliated agencies such as the Red Cross. Academically, it provides a model into which proportionality can be demonstrated on a certain and repeatable basis, and contributes to building the argument that the principle of proportionality is being constrained by the use of high speed weapons.

This relationship of the military commander with proportionality, weaponry and time will be illustrated in the following triangle:
Launch (a) to (b) - the distance line; the distance between the launch point and the target (b).
Launch (a) to (c) - the speed line; how fast the weapon travels between the launch point and the target (b).
Background - this shaded area constitutes the presence of the principle of proportionality in the temporal matrix. This shading will change with each case study, illustrating how this proportionality is degraded by the differing speeds of the weapons used, until the diagram changes from a completely shaded fill to a nearly empty space.
1.6 Conclusion

The years since the Kosovo conflict have witnessed profound changes within both international law and the LOAC, and in relation to this thesis, two particular instances are noted as important drivers to these changes – the establishment of the ICC and the rise in importance of customary international law.

Throughout this thesis, in both theory and practice, these two issues interact with the rule of proportionality in its relationship with the laws of weaponry and targeting which, in their turn, lead to the obligations of the commanders and the temporal constraints upon their decision – making.

The first change was the establishment of the ICC. Being a response to the requirement of bringing to justice some of the perpetrators of the worst types of war crimes, the Court provides a contemporary forum in which to apply criminal law in the areas of conflict, and in this aim it is linked to the second issue, that of customary international law. In relation to the Court, the function of the International Law Commission remains a work in progress, from its initial involvement in deciding the referral process, to its current involvement in defining the contours of customary international law.

The second change, the increase in importance of customary international law, driven primarily by the lack of State practice in cases classified as non-international armed conflicts, is driving a large academic response. As the formulation in API has now been superseded by the criminal statute, the question arises as to whether the provisions in API as pertaining to custom, are the same as those of Article 8 of the Rome Statute. API states that the sources of custom are found in Article 38 of the Statute of the ICJ, while in the Rome Statute, the applicable provisions are found in Article 21(b) and (c). These are not the same as the two treaties lay down different legal standards for two regimes of responsibility.

Some additional changes are clearly beneficial, as an example, attempts to clarify the meaning of “excessive” collateral damage in Article 8 of the Rome Statute whereas in

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165 How the work of the Law Commission on the formation of custom, and the influence of the Security Council were linked in the formation of this Court is considered in the following chapters.

166 Moreover, a key problem is the applicability of CIL to those States that are not party to API and other treaties in which the status of proportionality as custom is not grounded, as is the position of the US and other non-ratifying States.

167 Report of the International Law Commission on the Work of its Forty-Sixth Session, 2 May-22 July 1994, Chapter II, UN Doc. A/49/10, Arts 23(1) and (2) in Schabas see n 158.

168 As examples see T Meron ‘Customary International Law Today: From Academy to the Courtroom’ in Clapham and Gaeta above n 8 37-50; Cryer see n 46

169 Fleck above n 8 1 and 133; Newton and May above n 7 112; and ‘To be more precise, the text of the Rome Statute as understood in light of the Elements footnote adopted by consensus, accurately embodies pre-existing customary international law.’ Newton and May above n 7 114.

170 Schabas above n 8 425; Dinstein above n 7 6.

171 Wright above n 8 819-854.
other areas particularly that of customary international law, much remains to be verified and refined, even the basic question of what elements constitute the concept of custom itself.

The following chapter begins the series of case studies, in which the temporal triangle is employed in support of the thesis proposition that the principle of proportionality is under challenge from contemporary precision weaponry.
Chapter 2 - proportionality in the Kosovo war

Whereas Chapter One addressed the principle of proportionality in theory, the present chapter focuses upon the assessment of the application of proportionality in practice.\textsuperscript{172} To this end, it appears in the context of one of the armed conflicts occurring within the last fifteen years; the aerial bombing campaign by Member States of NATO against the Federal Republic of Yugoslavia (Serbia and Montenegro) in relation to Kosovo (the Kosovo War).\textsuperscript{173} This period witnessed a surge in the deployment of precision weapons, comprising a variety of bomber and fighter aircraft and their respective missiles.\textsuperscript{174}

As such it represents the first example of a modern armed conflict in which precision weaponry was deployed in a primarily air-to-surface military campaign with the ostensible aim of minimising civilian casualties or ‘collateral damage’ through proportionate strikes.\textsuperscript{175}

The ICTY Chief Prosecutor issued a report on alleged war crimes committed by the parties to the armed conflict: though this report was criticised,\textsuperscript{176} it is nonetheless the most authoritative factual account of the incidents in question. Referring to n2 \textsuperscript{177}, during the initial stages of the preparations for the intervention, it was not clear whether or not the armed conflict in Kosovo was, for the purposes of classification, an international or a non-international armed conflict.

The rules of Article 3, common to all the Geneva Conventions\textsuperscript{178} together with the majority of the rules in APII (1977),\textsuperscript{179} governs this area of the LOAC. Whereas historically States were averse to other States having any involvement in their internal affairs,
particularly the waging of war at the international level, this situation changed gradually throughout the period of de-colonisation following WWII. Common Article 3 was the first rule of international humanitarian law to address the issue of internal wars, those fought within the territorial boundaries of a State. In the context of this study, the question arises as to whether or not the Kosovo conflict was such an internal affair.

There are two main criteria involved in solving this question; first, the nature of hostilities, and second, the nature of the actors. Why this determination is so important at the outset of hostilities is due to the fact that different legal rules and procedures may apply to each of the two classifications, although this is now becoming less common, with rules applying to both equally. A further stipulation is that these rules do not cover riots and local disturbances, which are under the jurisdiction of the national police of the relevant area.

Considering the two criteria, first the nature of hostilities which fall under two headings; first, that of gravity, in this case, the pattern of destruction carried out by the Serbian forces against villages and towns, interference with the activities of local police and security agencies, and the blocking of lines of communication such as major and minor roads. The ICTY had confirmed that the number of attacks on the civilian population of Kosovo had increased dramatically from 1995 to 1998.

The second criteria being that of duration; there needs to be a period of “protracted armed violence” can 5 months can be said to be protracted in any sense. However, what about situations where there is one without the other? There is a second benchmark crucial to this determination, the nature of the actors. There must be evidence of an organised armed group under a responsible command which exerts public power and is responsible and identifiable. This is evidenced in the case of Kosovo by the existence of the Serbian military

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179 MN Shaw *International Law* (3rd ed CUP Cambridge 1991) 138. The Montevideo Convention on Rights and Duties of States, Article 1: The requirements of a State as an international person requires the following; a permanent population within a defined territory with a government with the capacity to enter into relationships with other States.
180 Shaw above n179.
182 HPCR above n8 xxiv.
183 E David above n8 355; HPCR above n7 53.8.
185 E David above n8 357.
186 E David above n8 358.
187 APII Article 1 (1).
and police forces, with the armed conflict being finally classified as an International Armed Conflict (IAC).

Historically, following the end of the Cold War in the mid-1990s and the death of its President, Marshal Tito, Yugoslavia as a State began to disintegrate. Civil war erupted, with the final phase of this complex war being the Serbian programme of ethnic cleansing of the Albanian population in the enclave of Kosovo in order to reclaim the country for Serbia. The NATO\(^{188}\) intervention to bring this to an end, “Operation Allied Force”, saw an air campaign lasting from 24\(^{th}\) March 1999 to 10\(^{th}\) June 1999.\(^{189}\) The conflict ended with the withdrawal of President Milosovic from the Presidency.

The chapter thus begins with a description of the precision weaponry deployed during the Kosovo War. This comprises the key aspects of the weaponry specifications that pertain to factors for the purposes of proportionality assessment in relation to temporality. These factors include, for example, the speeds of the aircraft and the missiles, the precision of the missiles in relation to the targeting systems and the visual capabilities of the pilots of the aircraft to accurately identify targets. In the Kosovo conflict, the attacks on the Djakovice convoy and the Grdelica Bridge engage the precision of the weaponry and the information available to the decision-maker in undertaking a proportionality assessment in situations in which the time available is highly constrained.

The Grdelica Bridge and the Djakovice convoy incidents were selected according to two criteria. First, referring to the official “Final Report”, in setting up its Review Criteria thresholds, the Committee chose incidents in which more than ten civilians had been killed; this was essential as there had been hundreds of incidents involving death and injury to civilians, in some reported cases however fewer than three deaths or injuries were involved.\(^{190}\) Second, the choices of the two specific incidents by the author reflects the importance of the actions of the pilots linked with the time frames available to the relevant commanders on duty at the time of the attack. Within these parameters, the Djakovice convoy and the Grdelica bridge incidents were chosen.

In relation to the temporal triangle, the Kosovo War case study illustrates the outcome of the relationships between the weaponry in use and the commander’s proportionality decisions in air-to-surface strikes. As such, the case study primarily concerns the constraint of time prior to the deployment of precision weaponry caused both by extraneous factors

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189 Kosovo Chronology: above n172.
190 Final ICTY Report above n172 1 2.
such as dust and debris thrown up by the wheels of the vehicles, and any pertinent weather conditions, and by the nature of the weaponry, for example, the speed of the aircraft and the missiles. The case study illustrates that the characteristics of precision weaponry can constrain the time available to the commander to undertake a proportionality assessment prior to the deployment of the weaponry, which can therefore increase the risk of a disproportionate attack.

Each of the two incidents analysed in the Kosovo War is structured in sections, these being repeated throughout the following two chapters; § (a) the reason the target was attacked; § (b) details of the weapons used in the attack; § (c) the proportionality assessment, and § (d) the temporal triangle.

2.1. Precision Weapons
To set the scene for analysis of the Djakovice convoy and Grdelica bridge incidents, and specifically the issue of the increasing use of precision weaponry, it is necessary to cover the area of weaponry in some detail. As this research has progressed, it became noticeable how variable some of the technical terms were when used by authors from other domains, and in particular, one such word requiring semantic clarity being “precision”. Sine provides a simple description of a “precision” weapon as ‘...a technical capability providing measurable and quantifiable first-order effects and minimal unintended or undesirable effects. The intent is to focus specifically on the preciseness of the effect the weapon achieves and not to the precision that relates to its guidance-system accuracy.’

What does the word precision mean in relation to which weaponry; the aircraft, the missile, the launching platform, a system as a whole … or as an aggregation of any of these. The following text attempts to make sense of these terms.

In the first case-study, the precision weapon was not the F-16 aircraft which struck the Djakovice convoy, that was the aircraft used to launch the missile. Neither was it the missile itself. In this case, the US A-10 was used (for the purposes of this thesis) as a “precision weapon” for two reasons; first, purely because it became an active member of the aerial activity surrounding the convoy, and secondly, to use its speed, 450 mph, as the base line for all the faster aircraft deployed both at the same time, and later in Iraq and Afghanistan. The F-15 could not have been used due to its higher speed, together with the fact that an F-16, an up-grade of the F-15 from the same manufacturer, was required as a key aircraft for the Iraq conflict.

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191 Sine above n4 1, 7.
In the second case-study, the precision weapon was not the F-16 aircraft, but was the missile which struck the train on the Grdelica Bridge. Being pre-programmed to strike the bridge at one end it did so with perfect precision using its GPS navigation system, but also destroyed the train progressing across it at the time.

However, what is the factor which makes such missiles “precision weapons”. It is not their ability to exactly strike the target which is a different issue. Another factor which gives the impression that it is the aircraft which is the precision weapon is the high speed of modern aircraft. The F-16, with a speed of over 1,500 mph, can give the idea that speed equals precision, where this is not the case. Having said that, such high speed certainly contributes to the success of a mission, as such aircraft will approach the target in a much reduced time, either from take-off time at an airfield, or from the time and air tasking order is received, and are difficult to target by enemy ground anti-aircraft batteries and other enemy aircraft.

Further, the lower the aircraft flies, the shorter the time to impact. Relating to precision, this can be positive in that the pilot may also be able to visually affirm the target and carry out a last minute collateral damage assessment. He will know immediately if there is a need to “go round again” for another target run. He can also use additional weapons on his aircraft, such as air to ground cannon or machine guns. Conversely however, he is entirely at the mercy of the immediate environment in which he is deployed. In the air war above Fallujah, in the famous “wedding-cake” stack, there were so many aircraft at every height from 1,000 feet to 30,000 feet that at one point, one pilot noted they were more at risk from each other rather than from the enemy.

As the law stands at present, proportionality exists to reduce collateral damage as a result of a state exerting its right under the LOAC to achieve a military aim, it is purely logical therefore that it be applied ahead of the mission, in order to capture this multitude of reasons for its existence which have been reduced to minimalist texts in the Additional Protocols. At the outset of this study, Newton and May observe that proportionality exists to ‘… contain the effect of lethal force…’\textsuperscript{193} This clarifies the difficulties faced by those who would control the assessment and application of proportionality, that it is the unforeseen effects of lethal force which causes the damage, not the application of the lethal force itself. The following section relates how such lethal force was controlled, and the weaponry deployed in the Kosovo war.

\textsuperscript{193} Above n7 Newton and May 18.
2.1.1 The weaponry deployed in the NATO bombing. Due to difficulties presented by both the local terrain and weather patterns, a broad variety of weapons were deployed by the NATO forces. In Kosovo, the types of weapons used by the NATO forces were a combination of the traditional and the new, from dumb bombs to precision weapons, to drones or UAVs.¹⁹⁴

At the time of writing, most attention given by the public is upon such precision weapons, these being linked with the issue of collateral damage. An important issue is the speed of the aircraft or platform used, the specifications of these being generally available to the public domain. However, this is not the case with the technical specifications of some precision guided missiles, the details of which remain classified. Consequently, this chapter’s analysis of the proportionality of precision weaponry is inhibited in some areas by the lack of publicly available information on the speed and other characteristics of the precision weapons.¹⁹⁵

Nevertheless, the essential difference between precision guided missiles on the one hand and ‘dumb’ or free-fall bombs on the other hand is that precision guided missiles are equipped with computerized systems which guide them to the target.¹⁹⁶ There are differing opinions as to what constitutes a precision weapon, however this study will adhere to the view of Sine who describes how the core of the “precision” concept lies in the identification and application of the least amount of explosive material necessary to destroy the target.¹⁹⁷

Precision is everything concerned with the complete missile, from its component parts to its delivery platform and explosive, every component is scaled down to the absolute minimum necessary for the destruction of the relevant target, according to its size and location. A large target, for example an aircraft hangar will require a larger mass component, in comparison to a smaller target in the shape of a human being. As one expert explains, ‘Precision guided weapons (PGMs) are guided by on-board computer algorithms. They are not the platforms which deliver them, such as aircraft, but are highly technical weapons which are guided, not “smart” self-automated systems’.¹⁹⁸

The laser guidance systems used for these missiles has been, as Hallion notes, one of the most decisive advances in air warfare. With such accuracy, one aircraft can replace the

¹⁹⁵ One example being details of the exact speed and range of the B52-Spirit bomber.
¹⁹⁶ Hallion above n 174 1-19.
¹⁹⁷ Sine above n4 1, 1.
¹⁹⁸ Beard above n174 409, 439.
many required to place dumb bombs anywhere near the target; ‘… it was as revolutionary a
development in military air power terms, as say, the jet engine or aerial refuelling.’\textsuperscript{199} In the
same vein, Farley observes precision-guided munitions as ‘America’s Ultimate Weapon of
War.’\textsuperscript{200}

Such precision has consequences for the assessment of collateral damage, and also, as
such strikes are statistically more successful on the first attack, there are fewer requirements
for re-visits\textsuperscript{201} to the target at a later time which may produce further civilian casualties as
frequently other persons go to assist the previously wounded. Such precision further gives a
high probability of an accurate strike upon the target regardless of weather conditions, which
in the earlier phases of the campaign produced rain and mist which can seriously reduce the
effectiveness of airstrikes, in ‘… that they affect the outcome of modern combat because
sophisticated aircraft and weaponry, (such as laser-guided missiles and night-vision sights)
do not operate properly in the presence of clouds.’\textsuperscript{202}

This is of particular relevance in the Kosovo campaign as, apart from the major
climate conditions of winter and summer, the mountainous terrain causes localised pockets
of wind turbulence causing unstable flying conditions, and even the suspension of some
planned missions. The additional issue of cloud cover was a problem in the earlier Balkans
campaign of 1992 and the earlier part of the Kosovo campaign, and finding a solution to this
issue became urgent. On some occasions during the Kosovo campaign there had been over
50 percent cloud cover more than 70 percent of the time.\textsuperscript{203} A Cloud-Analysis Model was
specifically developed; the Operational Weather Squadron was formed in Germany\textsuperscript{204} which
collected and collated relevant cloud patterns and communicated them to the planning teams
and commanders in the battle zone.

Cloud cover continues to present one drawback to the use of even “state of the art”
PGMs. ‘Even when PGMs are used against a military target they may miss the target because

\textsuperscript{199} Hallion above n174 7, 19.
\textsuperscript{200} Report: The National Interest: Robert Farley ‘America’s Ultimate Weapon of War:Precision-Guided
Munitions’ 7. (no date available) www.nationalinterest.org/print/feature/americas-ultimate-weapon-war-
\textsuperscript{201} Hallion above n174 4, 19.
\textsuperscript{202} JS Bohison et al, ‘Cloud over Kosovo’ (Summer 2000) Crosslink 1-4. The Aerospace Corporation
developed a model ‘… for a cloud-analysis system that was then put into operation in less than 60 days in the
Spring of 1999 to improve weather support for the war in Kosovo.’ 1, 1.
\textsuperscript{203} JA Tirpak ‘The State of Precision Engagement’ (March 2000) airforce-magazine.com 1, 5.
\textsuperscript{204} Tirpak above n203 1, 6.
of weather obstructing the pilot’s view, technological malfunction, or because the aircraft is
dodging anti-air defenses.’

Modern technology itself may be producing one solution to this problem. As laser-
guided bombs would not operate to their precision specifications if dropped through heavy
cloud cover or smoke, it was decided to use the military strategy of “stand-off” using, for
example, Cruise Missiles which carry their own GPS target co-ordinates guidance systems,
pre-programmed before take-off, and are launched from an aircraft outside, or “standing-
off” from the affected area. An issue with this is that these can only be dropped by the large
B-52 bombers, another facet of the complexity of interoperability.

There are many types of such weapons, each of which provides the means of causing
a specific, measurable, tactical effect while minimizing undesired effects. Dependent on
scenario, this effect must be quantifiable, assessable and predictable. The importance of
API Article 36 is noted by Haines, ‘Implicit in this requirement is an assumption about
the relationship between technology and law by which the existing law should constrain
weapons development rather than new weapons technology drive the shaping of new law.’
The precision weapon carries within it a whole environment not only of the physical machinery
which implements the intended operation, but also the new languages of military command
and control and computer science which always evolve with new developments in any
discipline.

Schmitt gives details of the growth of this area: ‘During Operation Desert Storm in
1991, only 8.8% of attacks employed precision munitions. By Operation Allied Force in
1999, this figure had grown to approximately one-third of all munitions dropped. Two years
later, in Operation Enduring Freedom in Afghanistan, the percentage was 65%, with slight
growth to 68% by Operation Iraqi Freedom in 2003. These statistics will be revisited in
the following two chapters.

205 A Boivin ‘The Legal Regime Applicable to Targeting Military Objectives in the Context of
Contemporary Warfare’ (2006) Research Paper Series No. 2. University Centre for International Law 1, 40;
quoting DL Gilmour ‘Precision Guided Weapons and the law of war.’ Paper on file with Boisin; Rogers
above n7 1, 3.
206 “Stand-off” identifies the situation where one aircraft operating in the clear zone assists another aircraft
within the affected zone.
207 Tirpak above n203 1, 2.
208 Sine above n4 1-10.
209 above n8 Backstrom and Henderson 483-514.
210 Haines ‘Humanity, Distinction, and Precautions in Attack’ - in above n8 Clapham and Gaeta eds 275.
211 MN Schmitt ‘Precision attack and international humanitarian law’ 87 IRRC 857 (September 2005) 445, 453.
The A-10 Thunderbolt was widely deployed during the campaign, including the Djakovice convoy incident. Used as close air support and attack for ground troops, it was originally designed during the Cold War period to deal with potential enemy tanks and heavy armour in the European theatre. Designed to operate at low altitudes, flying at below 100 feet it is unlikely to be spotted by enemy radar, it can take a lot of structural damage and still continue to pursue its mission. Frequently used in conjunction with other aircraft of differing types, helicopters, and artillery sites, the only criticism of its operational capabilities has been its lack of all-weather capability. In order to alleviate this, the LANTIRN system was installed At the time of the Kosovo campaign, the A-10 had a speed of 450 mph with a range of 2,580 mph, carrying a large and varied load of ordnance, including an external rotary cannon in the nose.

As part of NATO, the UK Royal Air Force Jaguar was deployed as a fighter and tactical reconnaissance aircraft. In low-level operations, it possessed the ability to destroy the target completely on the first pass, eliminating the need for a revisit strike. Robinson notes that the characteristics demanded of such an aircraft include ‘… the ability to evade air defences by flying at low level and following the contours of the terrain and the capability of operating in all weather conditions.’

With a speed of Mach 1.1 the Jaguar may operate as low as 1,000 feet, with an operating range of 564 miles. It supports an external payload load of up to 10,000 lbs, and in its tactical reconnaissance mode, it carries external pod-mounted cameras. (Some of these above comments are taken from a book published in 1983, and it is interesting to note that in one section concerning the operational capacity of the Jaguar, he specifies that at the end of a sortie, ‘… the film is rapidly processed so that within ten minutes it is being examined by interpreters… can be passed on within half an hour of the aircraft landing.’ This bears little comparison with today’s almost instantaneous processing of data from different sources.

213 A Robinson Aircraft of World War Three (Bison Books Greenwich USA 1983).
214 Robinson above n213 ‘LANTIRN is a low altitude navigation and targeting infra-red system for night… used for both the A-10 and F-16 aircraft.’ 8-9.
215 Robinson above n 213 141.
216 Robinson above n 213 59.
217 Austrian physicist Robert Mach, devised the term as a specific measurement for a ratio of the speed of an object, such as an aircraft, to the speed of sound in the same medium. Chambers Study Dictionary (Chambers Harrap Edinburgh 2002) 461.
218 Robinson above n 213 141.
One of the predominant aircraft in the Kosovo campaign, and again specifically chosen for its ability to fulfil a task within the strategic plan was the F-16 fighter.\textsuperscript{219} Flown by several of the NATO partners, the latest version has the capacity to locate and attack targets in all weather conditions. With a speed of 1,500 mph, the payload is comprised of two 2,000lb bombs and two AIM-9 and two AIM-20 laser guided missiles. In addition, the external armoury consists of up to six air-to-air missiles; conventional air-to-air missiles and air-to-surface missiles. The F-16D-2, carries a crew of two, the pilot and the weapons systems officer.

These three aircraft constituted the largest percentile contribution of fighter/tactical reconnaissance to the air campaign, however that is but one part of the overall picture. Working in conjunction, frequently on a rotating 24 hour basis, were the heavy bombers and multiple use aircraft. The B-2 Spirit represents the technology of “low-observability” stealth, whose signatures make it difficult for enemy radars to detect and track it. The exact speed is not specifically provided, but noted as “high sub-sonic” Its weaponry is conventional and nuclear, with a payload of 40,000 lbs, it is one of the largest aircraft in the campaign, and with an “inter-continental” range,\textsuperscript{220} making it one of the most versatile when it comes to distances between the theatre of war and home and re-fuelling points.

The B-52 Stratofortress.\textsuperscript{221} With a cruising speed of 525 mph and a maximum range of 8,800 miles, the B-52 will remain in service until 2040.\textsuperscript{222} First flown in 1952, this aircraft remained until recently the backbone of the US heavy bomber fleet. Fielded from the first days of the Kosovo conflict, their payload included CALCMs (Cruise Missiles) until a shortage of these weapons led to the B-52s carrying conventional dumb bombs as part of the campaign to cripple the Serbian army in Kosovo. Later in May, laser-guided munitions were added, and, as one expert observed, ‘… their exceptionally heavy bombing of the FRY army staging areas in Kosovo is widely seen as the final push that was needed to bring about a peace agreement between Serbia and NATO on 23 June.’ Payload includes conventional munitions (guided or gravity bombs), CALCMs (Cruise Missiles); AGM-142 ‘HAVE NAP’ TV-Guided missiles.\textsuperscript{223}

\begin{flushleft}
\textsuperscript{219} F-16 fighter: www.af.mil/AboutUs/FactSheets/Display/tabid/224/Article/1 last accessed 12.12.2015.
\textsuperscript{221} S Davies Boeing B-52 (Haynes Publishing Yeovil 2013).
\textsuperscript{222} “Airpower Classics” The B-52 Stratofortress Air Force Magazine June 2013.
\textsuperscript{223} Davies above n221 48-49.
\end{flushleft}
The aircraft section needs to be read in conjunction with the following parts describing the missiles deployed by these aircraft. The question is posed, would the NATO allies have intervened in Kosovo, had they not been in possession of PGMs? During the pre-war planning stage, it was the ability of these weapons to destroy enemy assets with potentially low civilian damage, that tipped the decision in favour of launching the campaign. 224

The three main missiles were, the Predator (Uninhabited Aerial Vehicles-UAVs); Early in the conflict there was widespread use of the Predator UAV, ‘…with the ability to loiter under the cloud ceiling and identify mobile and camouflaged targets;’ 225 the JDAM (Joint Direct Attack Munition) precision guided missile was further developed following the weather issues experienced in Operation Desert Storm, 226 and the Boeing AGM-86 Air-Launched Cruise Missile: this unmanned air-to-ground weapon has a maximum speed of 500 mph, and is launched from both the B-52 Stratofortress and B-1 Lancer bombers. 227 Smaller weaponry was also fielded, including the GAU Avenger 30mm cannons used by the A-10 strike aircraft.

Dumb bombs are those munitions dropped from an aircraft directly onto the target aim point with no intervening guidance from a human being, their destructive effects relying solely upon kinetic effects of blast, explosion and possibly fire. Being economic to use and fairly accurate to aim, they remain in favour where specific targets require destruction which are not close to civilian populations or vital civilian support entities, as examples electricity grids and water supply centres. 228 Historic fact illustrates how inaccurate these gravity bombs were: [In] 1944, an attacking B-172 had to drop roughly 240 tons of bombs, on average, to be sure of destroying one German bridge, even in clear weather. By 1965, F4-D fighters could destroy a North Vietnamese bridge by dropping 200 tons of unguided bombs, again in unclouded weather. However, with the advent of laser-guided bombs, by 1972 the same aircraft could destroy a bridge using only 12.5 tons of bombs; unclear weather still had an effect. By the time of Operation Allied Force against Serbia in 1999 B-2 stealth bombers

228 HPCR above n8 61; MOD above n37 83 5.32.4 “Dumb, or free-fall bombs are, however, less likely to hit a smaller precisely defined target than is a guided precision weapon.”
could undertake the same mission using only 4 tons of GPS\textsuperscript{229} Joint Direct Attack Munitions (JDAM)s, in any type of weather.\textsuperscript{230}

2.1.2 The NATO Command Structure

The Washington Treaty of 4\textsuperscript{th} April 1949\textsuperscript{231} laid the foundations for the organization which, without changing the original tenets, has enabled it subsequently to adapt to the pressures of an evolving world.

The surviving NATO Command Structure can reflect the realities of a Europe reorganizing itself following the collapse of the Soviet Union and the fall of the Berlin Wall. Central to its aim is that of a “collective defence” system\textsuperscript{232} based upon Article 5 of the Treaty\textsuperscript{233} which states;

‘The parties agree that an armed attack against one or more of them in Europe or North America shall be considered as an attack against them all, and consequently they agree that, if such an armed attack occurs, each of them, in exercise of the right of individual or collective self-defence recognised by Article 51 of the Charter of the United Nations, will assist the party or parties so attacked by taking forthwith, individually and in concert with the other Parties, such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area.

Any such armed attacks and all measures taken as a result thereof shall immediately be reported to the Security Council. Such measures shall be terminated when the Security Council has taken the measures necessary to restore and maintain international peace and security.’

Building upon this collective defence system, the fundamental tasks of NATO are elaborated in the model of “strategic concepts”.\textsuperscript{234} The existing Security model accommodates such issues as international security and non-state actors. The Active Engagement text\textsuperscript{235} engages the tasks of the military commanders;


\textsuperscript{231} ‘Washington Treaty’ NATO topic 1, 2.

\textsuperscript{232} ‘Washington Treaty’ above n 232 1, 2.


\textsuperscript{234} ‘NATO’s fundamental security tasks’ NATO Official text 1, 1.

\textsuperscript{235} ‘Active Engagement, Modern Defence’ NATO Official text:19 November 2010 1-4.
36. Unique in history, NATO is a security Alliance that fields military forces able to operate together in any environment; that can control operations anywhere throughout its integrated military command structure, and that has at its disposal core capabilities that few Allies could afford individually.\textsuperscript{236} Turning now to the specific military command chain of responsibility, the Military Committee itself is subordinate to the North Atlantic Council (NAC), the supreme policy making body of NATO. This Committee itself is subject to the widespread adaptations demanded by the London Declaration of 1991, ‘… and the promulgation of a new strategic concept that foresaw a NATO collective security role in crisis management and rapid reaction expeditionary forces.’\textsuperscript{237} Within 10 years, with the ethnic cleansing in Kosovo reaching unacceptable levels, NATO set three strategic objectives for its proposed use of force in Kosovo:

- To demonstrate the seriousness of NATO’s opposition to Belgrade’s aggression in the Balkans.
- To deter Milosovich’s escalating attacks on civilians and cease the process of ethnic cleansing.
- To damage Serbia’s capacity to wage war against Kosovo in the future, to prevent the war from spreading across territorial boundaries, and to degrade Serbia’s military means to prosecute the war.\textsuperscript{238}

In order to achieve these objectives, NATO specified Five Phases of Operation Allied Force.\textsuperscript{239} The first in order of priority was the destruction of the FRY’s aerial early warning system,\textsuperscript{240} to blind the enemy, denying him the ability to observe and to assess information from, the activities of the NATO forces. The second phase aimed at the degradation of the enemy’s communication links; the roads and railways along which he transported the oil and petroleum products essential for the sustenance of his fleets of tanks and lorries, his remaining means of waging war since the destruction of his air forces early in the campaign.

It is at this point that another “event” occurs that singles out the Kosovo campaign from those fought previously, the presence in the operational scheme of the military lawyers. These are serving officers, civilian lawyers contracted in, such reflecting the fact that they

\textsuperscript{236} ‘Active Engagement, Modern Defence’ above n234 1, 4.
\textsuperscript{237} ‘NATO’ answers.com. \url{www.answers.com/topic/nato-67?printtrue}
\textsuperscript{238} ICTY Final Report above n171 \url{http://www.icty.org/en/press/final-report-prosecutor-committee-established-review-nato-bombing-campaign-against-federal#1VA4} 1, 8 last accessed 12/09/16.
\textsuperscript{239} Five phases of Op Allied Force; HRW above n16.
\textsuperscript{240} Human Rights Watch above n157 2.
can be held responsible for their actions the same as would apply to the pilot or navigator in
the aircraft concerned. Questions were subsequently raised as to the large numbers of these
employed during the campaign, and did their advice have any undue influence with the
ultimate strategic aim of winning the war.

The tools utilised by the military strategists include, in addition to the aircraft and
weapon systems, the software of intelligence data and the human communication essential
for the building of pre-flight ROEs. Each airborne mission is given its own target folder,
dedicated to that mission only, in which a tiered analytical technique gives, inter alia, a risk
assessment of the civilian casualties (if any) could be expected as a direct result of this
mission.241

The lawyers are involved in both the preparatory stages and are present with the air
controllers during the actual mission. The control procedures are more exacting and complex
when the target is physically moving, as was the case in the Djacovice convoy incident, and
also at the Grdelica bridge when the decision time may be cut down to almost a second. In
situations such as the latter, the procedure known as “time critical targeting”, (TCT), is a
means of controlling the levels of collateral damage. ‘TCT is the part of the air operations’
process that is probably the most vulnerable to incurring unintended collateral damage. By
its very nature, the TCT dynamics do not allow for the studied examination of target folders
that the pre-planned process permits.’ 242 (The role of the lawyers is examined further in the
section addressing proportionality).

Following the attack, what analysis would be carried out to determine the
proportionality of the means of attack to express the military advantage? Again, there is a
set procedure in place; First, the correlation of civilian deaths to the location and nature of
the target; second, the timing of target selection as against list of priorities; third, the methods
and conditions under which the weapons were deployed; and finally, to determine the
presence of any indiscriminate nature to the attack.243

What military targets and objectives are permissible under the LOAC; civilian
immunity from attack. This can be approached from two viewpoints; from the air and from
the ground.

Humanitarian Challenges in Military Intervention Conference, Carr Centre for Human Rights Policy,
Kennedy School of Government, Harvard University, Washington D.C. 1, 7.
242 Dunlap Jr above n241 ‘Law and Military Interventions: Preserving Humanitarian Values in 21st Conflicts’
1, 9.
From the air, at the height he was flying, the pilot of the F-16 observed what he believed to be a convoy of military vehicles, mainly lorries with some tractors toward the rear. From the shape and colour of the vehicles, he deduced it to be military and as such, fell under the terms of his existing Rules of Engagement, these being the primary means of controlling the use of force in armed conflict, and which change with each specific mission, and may even be amended during its course. The weather conditions for the flight were good, bearing in mind the capricious weather patterns indigenous to the area. Aircrews are taught the tenets of the LOAC and the protection of the civilian, and attempts to reconcile these responsibilities with the realities of attacking the military target whilst controlling a high-speed aircraft produces situations … and judgements under extreme pressure, within a constricted time-frame.

2.2 The case studies

2.2.1 the Djakovic convoy

Details of why these two incidents were chosen as against other possibilities is due to two factors. First, referring to the official “Final Report”, in setting up its Review Criteria thresholds, chose incidents in which more than ten civilians had been killed; this was essential as there had been hundreds of incidents involving death and injury to civilians, in some reported cases however fewer than three deaths or injuries were involved. Second, the choices of the two specific incidents by the author reflects the importance of the actions of the pilots linked with the time frames available to the relevant commanders on duty at the time of the attack. Within these parameters, the Djakovic convoy and the Grdelica bridge were chosen.

Kosovo was the first modern war where there were as many lawyers in the control rooms as there were planners and commanders, reflecting the desire of the NATO leaders to adhere to the laws of armed conflict and keep excessive collateral damage to a minimum. The section dedicated to planners and commanders includes an analysis as to the state of the “commanders intent”, the presence of the actus reus and the mens rea required to establish criminal intent.

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244 GD Solis. The ROE are the primary means of controlling the use of force in armed conflict. The Law of Armed Conflict: International Humanitarian Law in War (CUP Cambridge 2010) 495.
246 Final ICTY Report above n172, 2.
247 N Ronzitti above n172 4, 9.
Additional Protocol II (1977) of the Geneva Conventions brought up to date the provisions of Common 3 of the Geneva Conventions, and for the first time gave the civilian recognition. Although couched in the concept of “rights”, these articles are not “human rights” in the widely known sense, where the individual is a claimant on the state, but under the humanitarian regime the individual citizen is protected because he is a human being in his own right. There are only two classifications of this situation, he is either a civilian or a belligerent. (For the remainder of this study, the citizen is called a civilian). Hensel also notes that the overall aim of the articles are to provide normative standards.

Each case study is structured in sections, these being repeated throughout the following two chapters. § (a); the reason the target was attacked; § (b) details of the weapons used in the attack; § (c) the importance of the weather and the terrain in the target area; § (d) the commander, the issue of information and the time factor; § (d) the temporal triangle.

2.2.1.a the reason the target was attacked
Further information revealed there had been reports of systematic ethnic cleansing in this area, together with the fact that this road was regularly used by both local civilian and also Serbian military vehicles. On the morning of the 14th April 1999, NATO forces had reported a series of fires in the area, apparently deliberately ignited indicating further destruction of civilian properties as the ethnic cleansing moved southwards. At 10.30am a NATO pilot reported what appeared to be green military type vehicles proceeding along the Pristina road.

2.2.1.2 details of the weapons used in the attack;
The conflict in Kosovo recorded the rise in the development and deployment of precision weapons. The convoy was attacked initially by one F-16 and one Jaguar aircraft which dropped two 500lb laser-guided precision bombs. These bombs, for example the EGBU-27 are the most widely known, chosen specifically for high-precision strikes. the letter E in the name indicated it was upgraded with guidance from GPS satellites.

‘…An F-16 bombed the convoy’s lead vehicle, at approximately 1110 the pilot relayed a threat update and the coordinates of the attack… A second F-16 aircraft arrived on the scene at around 1135 and visually assessed the target area as containing large vehicles…’

However, as the purpose of this chapter is to illustrate the speed of a slower aircraft to

248 Kalsoven and Zegveld above n8 142.
249 GA Resolution 2224 (XXIII) Respect for Human Rights in Armed Conflicts.
250 Hensel above n172.
251 A dictionary definition of precision reads; ‘Precision means exactness, distinctness, accuracy.’ The Shorter Oxford Dictionary 1565. This issue is considered further in § (c) The obligations of the commander.
252 Final ICTY Report above n172, 19.
provide a base-line for the temporal triangle specifications of the A-10 Thunderbolt provided a suitable comparison. These aircraft had been deployed from the beginning of the Kosovo conflict as part of the overall attrition of the Serbian war effort, forming part of the same NATO coalition as were the US and British fighters involved in the Djakovice convoy attack.

The Lockheed-Martin A-10 Thunderbolt\(^{253}\) was widely deployed during the campaign, including the Djakovice convoy incident. Used as an agile fighter, with bombing capabilities, it provided a versatile ability to deliver ordnance onto ground targets, either mobile or difficult to access by the larger high-altitude bombers. The single or dual pilot A-10 has a speed of 420 mph with a range of 2,580 mph.

Evidence of the involvement of A-10 aircraft in the Djakovice attack is found in Rogers; ‘Doubts began to assail the military planners because it was unusual for the Serbian forces to travel in such large convoys, so A-10 aircraft, which are slower and more stable than F-16s, were called in to check, and further attacks on the convoy were suspended at 13.00 GMT.’\(^{254}\)

Its varied load of ordnance; including GAU Avenger 30mm cannons. However, as the purpose of this chapter is to illustrate the speed of a slower aircraft to provide a base-line for the temporal triangle specifications of the A-10 Thunderbolt provided a suitable comparison. These bombers had been deployed from the beginning of the Kosovo conflict as part of the overall attrition of the Serbian war effort, forming part of the same NATO coalition as were the US and British fighters involved in the Djakovice convoy attack. Problems encountered by the serving pilots, particularly the issues of distinction and human shields, is recorded in a book\(^{255}\) authored by two A-10 pilots involved in the Kosovo campaign, and although the individual attacks are not specifically cited, the phrase, for example ‘… in the Djakovice area…’ gives the reader a sense of location.

However, as the purpose of this chapter is to illustrate the speed of a slower aircraft to provide a base-line for the temporal triangle specifications of the A-10 Thunderbolt provided a suitable comparison. Whereas at the time of Operation Allied Force against Serbia in 1999 B-2 stealth bombers could undertake the same mission using only 4 tons of


\(^{255}\) EE Haave and PM Haun eds *A-10s over Kosovo* (Air University Press Maxwell AFB 2003).
GPS Joint Direct Attack Munitions (JDAM)s undertake the same mission using only 4 tons of GPS256 Joint Direct Attack Munitions (JDAM)s, in any type of weather.257

In the early days of the conflict, the Serbian army fielded a formidable range of ground-to-air artillery which, in one instance succeeded in shooting down a US Stealth bomber.258 As the war proceeded however most of this equipment, together with tanks, was successfully camouflaged to hide it from NATO aircraft which, in their reconnaissance modes, would take note of potential targets, both static and mobile.

2.2.1.c  the proportionality assessment

In this case-study, this assessment is carried out by the commanders and planning teams before the attack begins. The value of any military advantage to be gained is determined during the initial planning stage, when the strategic military objective is clear and agreed upon by the NATO partners. Following the establishment of the military objective and military advantage, should the facts of either of these two processes be in doubt, there will be no requirement for a proportionality assessment as the mission itself will not take place. What is called the “belligerent nexus” will have been established; specifically, “… in order to amount to direct participation in hostilities, an act must not only be objectively likely to inflict harm that meets the first two criteria, but it must also be specifically designed to do so in support of a party to an armed conflict and to the detriment of another (belligerent nexus).”259

Experts260 propose that the key factor in the proportionality assessment for the Djakovice convoy attack was the “feasibility” aspect of API Article 57 (2)(a)(i), 261 one of the vital steps necessary to prevent indiscriminate attacks. ‘The relevant question that needs to be asked about the incident is whether it was feasible for the aircrew in action to verify the status of the target.’262 There is no evidence that the pilot had any doubt about it being a

259  Above n177 ICRC Interpretive Guidance Part 2: Recommendations and Commentary 58.
260  Boivin above n205 1, 46; WJ Fenrick ‘Targeting and Proportionality during the NATO bombing campaign against Yugoslavia’ (2001) EJIL 492, 499; Rogers, above n254 165, 169.
261  API Article 57 (2)(a)(i).
262  Boivin above n 205 1, 47.
strictly military target. Had he any doubts, he would have been taught during his training that in any case of uncertainty, API Article 52 (3) states that the object/s be considered civilian.

The operating altitude for the entire conflict was set at 15,000 feet up to 23,000 feet at the highest level of NATO political and strategic planning. Basing their decision on the premise that civilian losses be kept to a minimum, pilots were ordered to fly at the medium altitude of 15,000 feet, above the reach of enemy artillery, the technical reason for this being that PGMs op PGMs operate at their maximum efficiency when dropped from this height. With more kinetic energy at their disposal, this gives time for the missile’s fins to open fully, giving maximum outputs for accuracy in targeting and efficiency in use as to the explosive charges within the missile.263 (The case in support of bombing from a lower altitude is given in the following section, The Grdelica Bridge.)

Returning to the “feasibility” aspect, would the F-16 pilot have been expected to consider this in the context of the attack. The reply must be negative. Responsibility is laid down in API Article 57 (2), strictly states that “a) those who plan or decide upon an attack …” points directly to the planners and commanders in the Command and Control Centre who are in direct communication with the pilot. Unless it can be later proved that the pilot showed a deliberate mens rea in firing his weapons, with the express intent of killing or injuring civilians, there can be no claim of indiscriminate attack brought against him.264

Such strategies can place aircrews in an impossible situation. If they fly at 15,000 feet in obedience to the ROE, they run the risk of charges of indiscriminate attack; if they fly lower, they fall within the range of enemy artillery and the risk of being shot down. In this case, such complexities led the commanders eventually to dispatch an A-10 aircraft to determine whether or not there were civilians present in the convoy. On receiving an affirmative reply, the attacks were called off. (There were other aerial attacks in the Djakovice area at the same time, however evidence was so sparse as to civilian loss and damage that no further investigative action was taken).

264 MN Schmitt notes that ‘Criticism levelled about recent air campaigns evidences this phenomenon… in Operation Allied Force, recklessness, either in execution (e.g. by relying on unreliable information) or in tactics (e.g. by attacking from high altitude), was alleged on multiple occasions.’ Noting statistics obtained from HRW and Amnesty International. MN Schmitt above n211 ‘Precision attack and international humanitarian law’ 445, 455.
The role of the lawyers, the Judge Advocates (JAG) from hereon, is of increasing importance. ‘Commanders are expected to influence their subordinates to achieve the command’s missions and goals, they are expected to act, particularly in times of crisis,…’ Their task, to ensure compliance with the rules of the relevant ROE is both assisted and hindered by the huge amount of information generated through contemporary military systems of communication. Nevertheless, assessments and decisions must be made, frequently under stress of time, as they form part of the protection process built to give some element of safety to civilians caught up in hostile activity. ‘Reality requires that commanders may need to act quickly, often without the advice and counsel of others.’ This pressure of time, reflecting the claim that precision weaponry is influencing the efficiency of the proportionality principle, is continued in the following section, the incident at the Grdelica bridge.

2.2.1.d Application of the temporal triangle

The slow speed of the A-10 Thunderbolt aircraft will be factored into the ROE, and once the mission is under way, this slow speed, 450 mph maximum, should allow the commander sufficient time to reconfigure the plan of attack. (In this case, the A-10 was being used as a surveillance aircraft and not an attack fighter). The base-line of the temporal triangle baseline therefore remains at the lowest level.

2.2.2 the Grdelica bridge incident

The commentary on the second attack, upon the Grdelica bridge, illustrates two facts; first, that several different variants of aircraft and weaponry utilizing the latest technologies, were used by NATO to disrupt and destroy the Serbian war machine, and second, this particular attack is unusual in that the evidence given following the raid includes a direct reference to the shortage of, indeed total lack of time available to the pilot to abort the mission in the final few seconds.


266 Dunlap Jr above n7 ‘Clever or Clueless? Observations about Bombing Norms…’ There is a sound reason for this growth in numbers; ‘In order to harness the potential of the information age, the air force has constructed advanced combined operations centres (CAOCs) filled with technologies that facilitate not only that application of force but also the observance of legal and ethical norms.’ 109, 113.

267 above n 265 Coyne 1, 2.

268 above n 265 Coyne 1-28; above n265 Dickinson 1-15.

269 above n 265 Coyne 1, 2.

268 above n 265 Coyne 1-28; above n265 Dickinson 1-15.
On 12 April 1999, a NATO F-16 aircraft launched two laser-guided EGBU-27 bombs at the Leskovac railway bridge over the Grdelica gorge and Juzna Morava river, in Eastern Serbia. A 5-carriage passenger train, carrying both freight and civilian passengers travelling from Belgrade to Risktovac on the Macedonian border, was approaching the bridge at the time and was struck by the first missile.\textsuperscript{270}

Carrying out his orders to completely destroy the bridge, the pilot made a second bombing run on the further end of the bridge, now covered by clouds of debris, yet during this brief interval parts of the damaged train had slid along the tracks and were struck by the second missile. During the later investigations, evidence was given by the officer in charge of NATO operations in Kosovo, general Wesley Clark who stated ‘As the pilot stared intently at the desired target point on the bridge, and I talked to the team in Aviano who was directly engaged in this operation, as he stared intently at the desired target point on the bridge and worked it and worked it, and all of a sudden at the very last instant with less than a second to go he caught a flash of movement that came into the screen and it was the train coming in.’\textsuperscript{271}

A German eye-witness later entered a technical report, challenging some aspects of the NATO findings. One point made by the Final Report being, ‘If the committee accepts Mr Wenz’s estimate of the reaction time available, the person controlling the bombs still had a very short period of time, less than 7 or 8 seconds in all probability, to react.’\textsuperscript{272}

2.2.2.a the reason the target was attacked.

The bridge was identified as a military target \textsuperscript{273} within the overall mission of Operation Allied Force to degrade and halt the campaign of ethnic cleansing by the Serbian forces in southern Kosovo.\textsuperscript{274} One important tactic involved the breaking up of the Serbian forces into smaller pockets, hence the denial to them of strategic bridges, road links, and other systems used for the transportation of oil and petrol, essential for the widespread use of military vehicles.\textsuperscript{275} The outcome of the Committee determined that the pilot and the WSO were targeting the bridge and not the train. There were no grounds for an investigation concerning

\textsuperscript{270} Final ICTY Report above n172 at 58.
\textsuperscript{271} Final ICTY Report above n172 at 59.
\textsuperscript{272} Final ICTY Report above n172 at 61.
\textsuperscript{273} Final ICTY Report above n172 ‘in combat, military commanders are required to a) direct their operations against military objectives…’ 8 at 28.
\textsuperscript{274} Civilian Deaths in the NATO Air Campaign - The Crisis in Kosovo above n 172 1, 2. www.hrw.org/legacy/reports/2000/nato/Nat bm200-01.htm
\textsuperscript{275} Civilian Deaths in the NATO Air Campaign. As above n274. 1, 2 Citing n8; Testimony of General Henry Shelton, to the U.S. House Armed Services Committee, April 14, 1999.
the attack on the bridge, neither was there sufficient information regarding command responsibility either at the crew level or at a higher level of command.276

2.2.2.b Weapons deployed in the attack

The aircraft deployed was the F-16 fighter.277 Flown by many of the NATO partners, and with a speed of 1,500 mph, the latest version has the capacity to locate and attack targets in all weather conditions. The payload is comprised of two 2,000lb dumb bombs and two AIM-9 and two AIM-20 laser guided missiles. In addition, the external armament consists of up to six air-to-air missiles; conventional air-to-air missiles and air-to-surface missiles. The F15C-1 carries a crew of one; the F-16D-2, a crew of two, the pilot and the weapons systems officer.

The weapons used; EGBU-27. These 500lb laser-guided precision bombs, are the most widely known, chosen specifically for high-precision strikes. The letter E in the name indicating it was upgraded with guidance from GPS satellites. In relation to the weaponry deployed, the types of dumb gravity bombs as used in earlier conflicts are deployed together with the rapidly developing precision weaponry.278

Maverick missiles, known as “launch and leave” weapons, as they could be launched from the aircraft, from high altitude to tree-top height, and left to find their own way to the target. The distance available for travelling to the target varies from a few thousand feet to 13 nautical miles, flying at a medium height. These Maverick missiles are equipped with an electro-optical television system which links with a 5-inch television screen in the cockpit of the aircraft. The pilot selects the target, locks on, and launches the weapon. The latest infra-red navigational system in the missile allows it to be used in all types of weather.

2.2.2.c the proportionality assessment

The rapid increase in the use of precision weapons, influences all aspects of the relationships between the commander, weaponry, and the civilian, while at the same time such relationships extend to the texts of the LOAC causing tensions in how to balance the intentions of the drafters of the humanitarian conventions with the realities of the means and methods of contemporary warfare.

Gardam reminds us that, with API as the relevant treaty, specifically Articles 51(5)(b) and 57(2)(a)(iii) and (b), ‘…what these provisions require is an assessment before the attack

276 Final ICTY Report above n172 18 at 61 and 62.
278 "In Kosovo, the types of weapons used by the NATO forces were a combination of the traditional and the new, from dumb bombs to precision weapons, to drones or UAVs." Hagger and McCormack above n194 4, 13.
as to the anticipated military advantage and whether the civilian damage is likely to be excessive in relation thereto.’

When undertaking such assessments, as noted in the previous chapter, one means by which planners and commanders can obtain guidance in the assessment of proportionality is through the interpretation of humanitarian treaties and conventions, together with reference to State practice in all its forms. State practice of the US illustrates the quandaries faced by contemporary commanders; ‘The main problem with the principle of proportionality is not whether or not it exists but what it means and how it is to be applied. It is relatively simple to state that there must be an acceptable relation between the legitimate destructive effect and undesirable collateral effects.’ The task facing the commander is the reconciliation of proportionality with the law of weaponry, against a background where the facts of the target situation change from mission to mission.

Whereas despite correct control procedures being followed, the occurrence of collateral damage appears in two situations beyond the intent of a commander; first, where there is a mistake in identifying the specifics of a target at the last moment and frequently under conditions of stress for the pilot concerned, and, second, where there is a change of circumstances during the last few seconds of a mission. In relation to this, the concept of “intent” is acquiring prominence since the founding of the ICC. The Russian Federation, in 2010 stated that ‘We resolutely condemn both wilful attacks against civilians and civilian loss of life as a result of … disproportionate use of force, which is a gross violation of international humanitarian law.’

‘Air power is more susceptible to legal and policy adjustment than ground combat, in light of the variations of the means and methods of attack available through variation in munitions, delivery azimuth, aim point, fuse and explosive, all amplified with the assistance of computer simulation.’

2.2.2.d The temporal triangle

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280 Chapter 1 pp 12 – 48.
282 Russian Federation, Statement by the permanent representative of the Russian Federation at a Security Council meeting on the protection of civilians in armed conflicts, 6354th meeting 7 July 2010.
283 Dunlap Jr above n7 ‘Clever or Clueless…’. 115.
In the case of this temporal triangle, ‘TCT sometimes allows the JAG only a split second to formulate advice involving life and death.’\textsuperscript{284} Is there however, a limit to what any human being can cognitively control? Adams notes that ‘More and more aspects of warfighting are not only leaving the realm of human senses, but also crossing outside the limit of human reaction times…in short, the military systems (including weapons) now on the horizon will be too fast, too small, too numerous, and will create an environment too complex for humans to direct.’\textsuperscript{285} Time and information are tightly locked together and it is difficult to discuss one without awareness of the other.

Human beings require spaces in the unfolding of world events to cognitively make sense of what is happening at a specific point in time. When the amount of data cascades and accumulates to such an extent that it leads to a situation of information overload, this cognitive understanding is challenged, leading to potential mistakes in understanding and decision making. There are actually two situations at work together in the case of the commander; due to modern technology, there is the physical amount of data available, and second, again due to the speed of contemporary weaponry, there is less and less time actually available for a reasoned decision.

From the available facts given by expert commentators, and from the fact that the Prosecutor refused a further detailed enquiry whereby further details would have been made public (which may or may not have added to the discussion), the conclusion is that there was adequate time available for the commander to reach a reasonable assessment of the principle of proportionality. The weaponry used as the base-line for the temporal triangle, the A-10, had the capacity to drop dumb bombs, and, with the later dates in its armament system, some precision-guided weapons. The following chapter, Iraq, utilises precision-guided weapons, whether some weapons are “precision” weapons or not, and this conversation continues throughout the remainder of the study. This mixture of compression of time, human mistake, and secondary air-strikes are developing this pattern of unforeseeable error which is considered throughout the three case studies.

There is now notice being taken that ‘Unplanned strikes, however, do not allow the military sufficient time to thoroughly estimate collateral damage.’\textsuperscript{286} Adams notes that ‘more and more aspects of warfighting are not only leaving the realm of human senses, but also

\textsuperscript{284} Dunlap Jr above n242 ‘Law and Military Interventions: Preserving Humanitarian Values in 21st Century Conflicts’ 1, 10.
\textsuperscript{285} Adams above n147 1-15.
\textsuperscript{286} Groves above n157 1, 5. at n 32.
crossing outside the limits of human reaction times.' 287 Within these parameters is information, and the ‘… proliferation of information-based systems will produce a data overload that will make it difficult or impossible for humans to directly intervene in decision making’. 288

‘Many of the objections to the use of proportionality focus on how hard it is for commanders to make such calculations when they are in battle or in other situations where quick decisions need to be made and where there is no time for elaborate calculations’. 289 This statement justifies the claim made at the beginning of this study that the principle of proportionality is in danger of being affected by the use of such weaponry, although it is regrettable that at this point in time there are not more detailed accounts available.

There are two points to be made; first, when referring to the use of dumb bombs, it is the speed of the aircraft delivering them from the aim point (an airfield) to the target that is important. The bombs themselves fall according to the laws of gravity. Second, as the speed of aircraft increased, parallel advances in the field of weapons technology meant that the weapons themselves acquired guidance systems which enabled them to perform tasks according to pre-set computerised programmes, whether they were released by aircraft or fired from ground based launch pads. 290

As a result of such intense levels of planning, ‘In practice, only 20 of the approximately 23,000 munitions expended by NATO in the 1999 Balkan air operation caused collateral damage or civilian casualties. Some others were deliberately steered off course to avoid harming civilians who had not been seen in the target area until the last moment.’ 291

2.3 Application of the temporal triangle

The diagram illustrates the relatively slow rate of delivery, both of the speed of the aircraft itself and, which provided commanders with sufficient time for decision making, including assessment of the proportionality principle.

The temporal triangle is most effectively viewed as a two-part diagram, the background and the base-line. Within the Kosovo narrative, the base-line is at its lowest level, the speed of the slowest aircraft and weaponry. The large amount of background environment remaining represents the fact that there was sufficient time available for

287 Adams above n147 1, 2.
288 Adams above n147 1, 2.
289 Newton and May above n7 11.
290 The Boeing AGM-86 Air-Launched Cruise Missile
291 Tirpak above n203 1, 6.
reasonable command decision making when assessment of the principle of proportionality was executed before the attack.

The background is the most permanent of the two, with the base-line moving upward across the background as the speed of the weapons system increases. This background illustrates the environment in which the principle of proportionality exists, together with other humanitarian principles, in the law of armed conflict. Represented by the shaded section of the diagram, this proportionality environment is gradually reduced as the base-line moves from the slowest weaponry speed to the highest. As time is the concept in which the particular environment exists, this reduction in space shows how the time available to the commander is correspondingly reduced.

The A-10 Thunderbolt was widely deployed during the campaign, including the Djakovice convoy incident. Used as close air support for ground troops, including the deployment of some dumb bombs, the single pilot A-10 has a speed of 450 mph with a range of 2,580 mph. It carries a large and varied load of ordnance; Maverick AGM 65 missiles.

Referring to the temporal triangle, and repeating the fact that the specifications for some precision-guided weapons remains classified information, the speed of the slowest aircraft, the A-10 fighter in the Djakovice convoy incident is used to provide the base-line (450 mph) for the comparisons with the aircraft in the following Iraq and Afghanistan conflicts. The white (empty) area biting into the black/grey “proportionality” background indicates how much proportionality time is available for commanders to make decisions. As the speeds increase, this shaded area lessens until at the highest speeds of over 1,000 mph there is very little shaded proportionality time left.

2.5 Conclusions

The Kosovo campaign produced the lowest number of civilian casualties since the Vietnam War. Whilst this is a positive indicator, producing such a result can come with a heavy price, and to ‘… be respected, international humanitarian law must continue to rationally balance humanitarian concerns with military necessity.’ Schmitt notes that ‘…strictly speaking, there is no direct relationship between precision and the proportionality principle as a matter of law, there is a very real de facto nexus.’

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294 Schmitt above n211 ‘Precision attack and international humanitarian law’ 445, 456.
295 Schmitt above n211 ‘Precision attack and international humanitarian law’ 445, 457.
Possibly the acceptance of this “nexus” offers one tangible method of ensuring the survival of the principle of proportionality in an age of uncertainty and increasing speed and desired precision. Proportionality continues to perplex those who attempt to interpret and apply it, to the point where even the ICTY Commission ‘… reflected on the considerable intellectual difficulties associated with the implementation of the proportionality rule.’

It is clear that efforts were made during these three attacks to enforce the tenets of avoiding “excessive” damage to civilians; the resulting collateral damage was due to accident, the one element that cannot be factored into any risk element of an ROE.

Experts consider that finding an agreed common standard or metric for the principle of proportionality would be a significant step in the general understanding of this principle. Newton and May have, amongst other proposals, suggested the “common denominator principle” which has the aim of balancing the values found in every proportionality calculation.

Summarising the issues of accident and mistake; in the Gredlica gorge incident, once the missile was locked onto the target, despite the best efforts of the pilot, it was inevitable that the missile would strike the train. Whereas in the Djakovice convoy incident, there was genuine mistake on the part of the first F-16 pilot as to the identity of the vehicles in the convoy.

Towards the end of the conflict, it was realized that ‘Strategic attacks on Serbian centres of gravity, not the destruction of Serb tanks and troops in Kosovo, paved the way for NATO’s victory in Operation Allied Force, according to the man who ran the air campaign’. Centres of gravity are ‘Characteristic(s), capability(ies), or locality(ies) from which a nation, an alliance, a military force or other grouping derive its freedom of action, physical strength or will to fight’. Since then, the ICC recognizes that attacking civilians and civilian objects now constitutes a war crime subject to specific criteria being met. However, as recently as 2012, the UN Secretary General noted there had been little progress in protecting civilians from deliberate targeting, indiscriminate or disproportionate attacks, and other violations of humanitarian law.

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297 Wright above n8 819, 840.
298 Tirpak above n203 1, 1.
299 Air Power Definitions and Terms: Chapter 13 (no date) AP 3000 3.13.2 1, 1.
300 ICC Art 8 (2) (b) (i) War crime of attacking civilians. Art 8 (2) (b) (ii) War crime of attacking civilian objects. www-ioc-cpi-int/…/Pages/elements%20of%20crimes.aspx.
The difference between planned and unplanned strikes will be considered in more detail in the following chapter, the conflict in Iraq. Although the accidental bombing of the Chinese Embassy was also a controversial incident, its cause was found to be faulty targeting information rather than a time element.301

‘The employment of dumb bombs has not been rendered unlawful by the advent of precision guided or “smart” bombs, but developing technology does bring with it a change in the standards effecting the choice of munitions when taking the precautions …’ 302 (The precautions noted here being API Art 57 (2).)

Conflicting facts and opinions distort the construction of a clear picture of what occurred… being survivors of the attack, many if not all of the witnesses so medically shocked unable to present any coherent … but with the passage of time,, a more accurate and stable picture emerges from which credible evidence can be accrued, sufficient to provide in some cases, facts that will support accusations of war crimes. Historically there had been disquiet that the security of the civilian in a rapidly changing world was insufficiently determined, leading to the drafting of the two 1977 Additional Protocols; their scope of application being, the first dealing with international armed conflicts (IACs), and the second dealing with non-international armed conflicts (NIAC)s. An additional Article was added later in the form of Common Article 3 (CA3),303 this being a precisiated convention addressing only internal armed conflicts. How these texts continue to support the civilian is the subject matter of the following two chapters.

Finally, Tirpak considers that ‘Operation Allied Force proved that true precision air attack- once a far-off goal but now taken for granted has become an indispensable capability.’304

The following pages contains the diagram of the temporal triangle, a simple device to visually impart a difficult concept. By containing the proportionality principle within a bounded space and giving it a colour to further define it, this principle, one of many in the legal firmament, can be imagined in a realistic manner, rather than something nebulous “out there” which is not a clear legal object like a contract or a trust. Each chapter has its own discrete diagram.

301 ICTY above n172 80.
302 MOD above n37 323 12.51.
303 MOD above n37 31.
304 Tirpak above n 203 ‘The State of Precision Engagement’ 1, 6.
THE TEMPORAL TRIANGLE

The triangle is most effectively viewed as a two-part diagram, with the shaded background of the proportionality environment, with the variable neutral baselines indicating time and speed above this.

The background illustrates the environment of the proportionality principle in the LOAC and includes all the other principles and issues relevant to the assessment of proportionality at a specific time and place in a particular mission – and no other. In this case it is the attack on the Djakovice convoy. As the baseline rises, the space below it becomes empty. This leaves reducing levels of the background environment (of which time is one element) available for command decision making.

Here, the baseline is at its lowest level, indicating the speed of the slowest aircraft involved in the attack, the aircraft used for surveillance and reporting of the battle in progress. It also reflects the slower operating speeds of dumb bombs. The background environment is full, indicating ample time for decision making ahead of the event.

The side of the diagram a-c indicates the speed of the aircraft.
The side of the diagram a-b indicates the distance between the launch point and the target.

The given facts are used as there were no (to my knowledge) other aircraft involved in the actual destruction of the convoy which were not deploying precision weapons. There were other “slow” aircraft, significantly the B-52 stealth bombers but which operated from high altitudes and mainly at night.

In the next chapter, the conflict in Iraq, the temporal baseline rises to the mid-level, indicating the configurations of precision weapons in a different proportionality environment.
Launch (a) to (b) - the distance line; the distance between the launch point and the target (b).

Launch (a) to (c) - the speed line; how fast the weapon travels between the launch point and the target (b).

Background - this shaded area constitutes the presence of the principle of proportionality in the temporal matrix. This shading will change with each case study, illustrating how this proportionality is degraded by the differing speeds of the weapons used, until the diagram changes from a completely shaded fill to a nearly empty space.
Chapter Three: Proportionality\textsuperscript{305} in the Iraq war

The battles in Iraq, and particularly that in Fallujah, was fought primarily with precision weapons chosen specifically for their use in urban situations. The “Fallujah Model” as it is generally named, illustrates the closeness with which Allied air and ground forces co-operated as a single fighting unit, and as Yves Sandoz\textsuperscript{306} observes, ‘…the fact cannot be ignored that most contemporary armed conflicts are conducted on land,’ To this end, the two case studies, one on the air war and one on the land war, use a “proxy” approach, whereby unknown actors are used within strictly factual situations to illustrate proportionality, precision weapons and the temporal triangle in their application in relation to this strategic model.

Chapter Two has proposed that the principle of proportionality\textsuperscript{307} was not yet heavily influenced by the introduction of precision weapons in 1999, while in comparison, the Iraq conflict reflects the extraordinary expansion in the use of these of different capacities, particularly that of speed. However, the battle of Fallujah illustrates some areas where the principle could be seriously challenged.\textsuperscript{308} In these cases, the principle of proportionality is assessed \textit{during} the attack; in this instance, upon a densely populated area which also raises the issue of indiscriminate attacks,\textsuperscript{309} and the difference between civilian houses and enemy-occupied houses. Movement of civilian populations into urban conurbations is increasing, due to social pressures of employment and quality of life,\textsuperscript{310} elevating the risk of civilian casualties in the event of an armed conflict, and such co-locating between combatant and non-combatants increases the workloads and responsibilities of all the military personnel.
concerned, particularly the commanders and the lawyers involved in the assessment of specific missions.

The temporal triangle for Iraq illustrates how at best the commander may have merely half the usual time for consideration when proportionality is being assessed during a mission, due either to a change of plan, a mistake, or an unforeseen circumstance. The importance of this compression of available time is made clear by Gardam; ‘The clarification of where the onus lies for complying with the requirements of proportionality paves the way for the criminal liability of the individuals concerned for any such failure.’ However, since the declaration of the Office of the Prosecutor of the International Criminal Court (ICC) in 2016 not to consider failures of proportionality, any charges of indiscriminate attacks would need to be generated within the national courts of the defendant.

3.1 Precision weapons

Precision weapons had proved their air superiority in the Kosovo conflict. That had been fought over open countryside; the battle of Fallujah however was a different matter, being that of an urban space, of narrow alley-ways and crowded houses and small shops. It was in both the airspace above, on the ground space between, and in the basements and tunnels below these objects that the next generation of precision weapons were deployed. (This thesis avoids the inclusion of fully autonomous weapons, which have many differences to fired weapons. Their inclusion would result in an overload of weaponry related text as balanced against that available for the discussion of the principle of proportionality).

Precision guided weapons (PGMs) are directed by on-board computer algorithms. They are not the platforms which deliver them such as aircraft, but are high technology weapons which are guided, neither are they self-automated systems. Sine notes further that the preciseness of a weapon ‘… must be calculated considering all the variables associated with weapons employment, including navigation accuracy, weapons effects, undesired effects, and potential unintended effects.’ Expanding upon this, he gives a clear definition of a precision weapon when used in the context of Effects Based Operations

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311 This is elaborated in the section dealing with the temporal triangle; see p 107.
312 Gardam above n279 9.
313 A “smart” weapon, a precision guided missile PGM is a missile, bomb or artillery shell equipped with a terminal guidance system. Restraints on laser-guided bombs; need a clear line of sight between the laser seeker and the laser spot beam designating the target. Not possible under adverse weather conditions, rain, dust, and similar impediments. http://www.GlobalSecurity.org, accessed 04/11/16.
314 A Bolt ‘The Use of Autonomous Weapons and the Role of the Legal Advisor’ in D Saxon 47.
315 Beard above n 174 409, 439.
316 Sine above n4 1, 7.
(EBO)\textsuperscript{317} as ‘…including the context within which the weapon will be employed to include the target, its environment, the desired and undesired effects, and the rules of engagement’.\textsuperscript{318} It is not, however, required to employ precision weapons should other weapons be available which would be more suitable under the circumstances.\textsuperscript{319}

There are many types of such weapons, each of which provides the means of causing a specific, measurable tactical effect while minimizing undesired effects. Dependent on scenario, this effect must be quantifiable, assessable and predictable’.\textsuperscript{320} Put more simply, it means using the least amount of explosive of the correct type to attain the desired aim and placing it as near to the target as possible. In the case study, the target may have been a suspect insurgent taking shelter in the house of IHAT\textsuperscript{321} and the use of a precision weapon could have caused the death of the suspect through a limited explosion rather than through a massive explosion capable of reducing the whole building to rubble.

The precision weapon carries with it a whole environment not only of the physical machinery which implements the intended operation, but also the new languages of military command and control and computer science which always evolve with new developments in any discipline. There will be occasions when it is necessary for commanders and pilots to assess proportionality during a strike; due to last minute changes in strategy, or targets, the sudden appearance of civilians in a designated target zone, or shifts in predicted weather patterns, and as is usual, if one thing is changed many others are required to do so in order to keep the battle order true to the original design.

As previously noted, a major aspect of contemporary warfare is that it is increasingly being fought in areas of high human density, the urban space.\textsuperscript{322} Attacking the civilians or civilian objects within such centres, whether large or small, are prohibited. Due to the greater risk of damage to civilians and their property due to this crowding, the rules of engagement applies more stringent legal rules in these circumstances than in other conflict situations.

\textsuperscript{317} CR Clark and TJ Cook above n 306 1-11. Briefly, EBO aims to, via the use of a standard methodology and real-time causal linkages, activate the operational tasks required to fulfil the desired strategic effects. This is a minimum outline of a vast concept occupying the minds of the analysts in the Command & Control Centres.
\textsuperscript{318} Sine above n4 1, 7.
\textsuperscript{320} Sine above n4 1-10.
\textsuperscript{321} IHAT: The Iraq Historical Allegations Team follows two lines of enquiry; allegations of mistreatment and allegations of unlawful killing. MOD. IHAT was closed down in 2016. first accessed 02/12/2013.
\textsuperscript{322} Head above n305 105-132.
where the population is more widely spread,\textsuperscript{323} and there is evidence that “urban warfare” poses serious challenges for future military operations. Kreuder records that in 2008, half the world’s population already live in urban areas. ‘By 2020, the United Nations (UN) estimates this figure will reach 55%. This trend will likely continue through 2050, when the UN predicts a staggering 70% of the world’s population will live in or near cities.’\textsuperscript{324} Kreuder notes further that the reasons large cities present major targets is that they contain centres of political, economic and military importance, and these items of terrain, population and infrastructure meld together forming a complex matrix called the urban triad.

3.1.1 Weapons deployed in the Fallujah conflict.

“Precision” in relation to weaponry is also dependent on circumstances prevailing at the time of the attack. The concept of precision as a tactical capability, as portrayed by Sine, helps in the understanding of this facility, as, similar to proportionality its objective has the capacity to change from one mission to the next, and as such, the type and amount of explosive may change to fit the requirements of destroying the target. As the word “precision” implies clarity, so the words describing it in its modern form require clearness in themselves.

Therefore terminology becomes important, as by some, drones are called aircraft and by others, just their generic names are sufficient indicators of what they are, good examples being the Predator and the Reaper. A further development being the “systems platform”, is this an aircraft, a drone, or something specific unto itself. For ease of reading, this study uses the word “aircraft” for all fixed-wing aircraft; helicopters for helicopters; and drones for \textit{all} manned and unmanned vehicles, from the massive Predator with the ability to launch its own missiles; and “missiles” to cover all bombs and rockets.\textsuperscript{325}

The niceties of these calibrations are highlighted when it becomes necessary to make the choice of a precision weapon for the temporal triangle, will it be an aircraft, a drone, or a missile. What these weapons are, as in the triad above, is immaterial. It is all a matter of speed, and the effect this produces on the time a commander has for making reasonable decisions concerning proportionality.

During the build-up to this conflict (now called the Second Battle of Fallujah), it was realised that the most efficient method of achieving the strategic aims of rapid success and keeping the level of civilian casualties as low as possible, lay in deploying the air forces and

\textsuperscript{323} Reynolds above n12 1, 7, which gives in full the outline of the Restrictions and Rules of Engagement for the RVN (Republic of Vietnam).
\textsuperscript{324} Kreuder above n305 1, 1.
\textsuperscript{325} HPCR above n8 11.
the ground forces jointly, 326 in fast-moving series of attacks, rotating both day and night. To this end, weapons were chosen with care, specific weapons for specific strikes particularly those with “first-strike capability”, 327 with this model of a joint air and ground attack rapidly became the template for future air-to-ground attacks.

3.1.1.1 The Air War

Aircraft form part of the strategic defence force of a State, and of the Allied Forces involved in this “second battle of Fallujah” 328, the US and the UK provided the largest percentile numbers of aircraft of all types. For the purpose of this study, three are briefly described here, and in more detail in the case-studies.

First, the AC-130 gunship (US Air Force) – the heavy AC130 Coalition Air Support (CAS) transports supplies of weapons and fuel necessary for the prosecution of the conflict. Derived from the Boeing Hercules, this large four-engine machine possesses a variety of roles from transportation of supplies and heavy equipment to the close air support given to the troops 329 on the ground when in battlefield situations as when a small unit of troops is pinned down or ambushed by insurgents, the unit may run short of ammunition or be taking casualties and require additional manpower to halt further attacks. 330

Second, the F-16 fighter-bomber (US Air Force). 331 Due to its precision abilities, used for the “first-strike a success” concept which furthers the aim of reducing civilian casualties as it reduces the number of return strikes, played a lead role in the “persistent strike and surveillance” strategy

Third, the Hercules Royal Air Force (RAF) C130K CI/3. 332 Manufactured by Lockheed, and deployed as a large air transport vehicle designed to carry troops, up to 28 passengers and 20 tonnes of pallet freight, stores and equipment. Powered by four turbo-prop engines and with a range of 3,500 to 4,000 miles, with the aid of mid-air fuelling, this aircraft provided an ideal carrier between Europe and the Middle East.

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326 Illustrating the development of “Combined Command”, a strategic concept demonstrated particularly in the following chapter, the Afghanistan campaign.
327 Head above n305 105, 120.
328 The first battle of Fallujah, as it was later called, was the first Allied attempt to control the rising number of disturbances in the city following the murder and desecration of four civilians working for the Allies. The outcome was never decided, and the situation deteriorated to the point where the second intervention, with the assent of the local governor, was required.
329 “Troops” is a general generic term used to describe the military who fight on the ground, and includes members of the Allied armies, Marines, Sea, Air and Land forces (SEALS), and Special Forces.
332 RAF Hercules: http://www.raf.mod.uk/equipment/hercC1C3.cfm
3.1.1.2 The Ground War

Both heavy and light armour was deployed in the Fallujah conflict. The heavy armour included the US M1 Abrams tank, equipped with a large array of weaponry with the capacity of demolishing walls and entire buildings. Light armour included howitzers, indirect fire weapons which can be fired without a “line of sight” to the targets, that is aiming at targets which cannot be seen, for example “…over the tops of buildings.” The US and other ground forces carried a variety of small arms weapons, service revolvers, long-range rifles and hand-grenades. More details of the crew and their obligations are given in the second case study, ‘The Tank Commander.’

Leading the list of what are now defined as precision weapons, and recognized by the public generally as “drones”, deployed by both ground and air forces, is the MQ-1 Predator, valued as it can overcome the “line of sight” issue and find its own way to the target, and which also possesses persistent battlespace abilities. In addition, the Joint Direct Attack Munition (J-Dam), GBU-31; a GPS Guided Bomb, the GBU -12 Paveway II laser-guided bombs, and in an addition, large numbers of dumb gravity bombs were dropped, proving that although modern precision weapons are desirable in many cases, dumb bombs also have roles to play in scenarios where large-scale destruction of infrastructures is required, as with the destruction of runways or storage facilities.

3.1.2 The Allies Command Structure

At the head of the command structure, ‘…the United States Central Command (USCENTCOM) issued the orders and policies which would direct military operations

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333 Corderoy and Perkins above n305 1, 15.
334 MQ-9 Predator Aircraft
Manufacturer General Atomic Aeronautical Systems.
Specifications: Speed - 120 KTAS; Altitude - 25,000 feet; Endurance – 35 hours;
Mission ISR; Interdiction; close air support; force protection; combat search and rescue; remote operations video enhanced receiver operations. This aircraft flew in both Iraq and Afghanistan. Has both line of sight and beyond line of sight capabilities. http://www.ga.asi.com/aircraftplatforms accessed 04/11/16; Grant above n 305 48, 51.
335 Grant above n305 48, 52; Head above n305 105, 120.
336 Joint Direct Attack Munition (J-Dam) – GBU-3. Type; J-Dams, where tail kits were attached to dumb bombs.
Manufacturer - Boeing: Specifications; Guidance semi-active laser (man-in-the-loop); Range 8 nautical miles; CEP 9 metres; Weight 800 lbs. Mission: Neutralizes targets at long-range with precision accuracy. Add-on laser sensor kits to prosecute moving, re-locatable or maritime targets. Modular capability enhancement – small diameter bomb with ultra-low level of collateral damage – focused lethality. Can be leveraged as ground artillery weapon. http://wwwboeing.com accessed 04/11/16.
337 Corderoy and Perkins above n305 1, 11.
338 Corderoy and Perkins above n305 1, 17.
within the recognized battle space of Iraq. Three other agencies were involved in this task; the Combined Forces Land Component (CFLCC), the V Corps and Combined Joint Task Force’, 339 with the Command Hub for Iraq being located in the US Combined Air Operations Centre in Qatar.

The primary political goal of Operation Iraqi Freedom (OIF) was to establish a stable Iraq with its territorial integrity intact and a broad based government that renounced Weapons of Mass Destruction (WMD) development and use, and no longer supported terror or threatened its neighbours. Following from this, the Combined Force Commander’s top three objectives were to defeat or compel capitulation of Iraq’s military forces; to neutralize the regime leadership’ and to neutralize Iraq theatre ballistic missile system, WMDs, delivery systems. Together with this, Air Force operations focussed upon security, stability transition and reconstruction. 340

Upon the outbreak of conflict in 2001, there were two clear stages of separation in the intended battle order; the initial stage, with the strategic aim of removing the Head of State of the Baa’th party, and the second stage of “belligerent occupation”. The first, Operation “Iraqi Freedom” began 19 March 2003 and ended 30 June 2004.341

With over 50 countries contributing to this war effort, command and control was complex and difficult, a standard for Command and Control was sought, resulting in NATO launching the Combined Training Initiative (CTI). Its mission noted that it, NATO, took advantage of the changing conditions to take NATO interoperability and operational readiness to a higher level, being based on NATO’s three components of interoperability; the technical, the procedural, and the human.

First, the technical involved plurality of countries involved in exercises carried out sometimes outside their own borders;

Second, the procedural involved two processes; doctrinal, the joint utilization of “lessons learned” from previous exercises, and organizational, the codifying of techniques and procedural tactics, techniques and procedures (TTP) to mitigate doctrinal diversity together with a focus on the functional interoperability of TTP disseminated through

339 Warren above n305 167, 168.
341 MN Schmitt ‘Iraq (2003 onwards)’ in E Wilmshurst ed International Law and the Classification of Conflicts (OUP Oxford 2012) 362; Grant above n305; Head above n305 105, 106.
NATO’s Centres of Excellence (COE) in training facilities in Europe and the US.\textsuperscript{342} (The third, human, does not relate to this section).

In addition to the regular Standing Orders, “Fragmentary orders” were issued to soldiers of all ranks from officers to the lowest ranks in times of emergency, when situation on the battlefield are changing so rapidly that there is no time to go through the regular channels of communication and publication. One example\textsuperscript{343} ‘re-emphasised adherence to the law of armed conflict, directed that all forces under their command be treated with dignity and respect, and required dissemination of the memorandum down to the platoon level.’

Specific guidelines exist in the LOAC for the formation of a combined operations group of States. In both Iraq and Afghanistan, the operations of such a coalition would on occasion overlap, due to the timescales of the missions. Particular rules apply when several States are working together in unison against a common enemy.\textsuperscript{344} Intended to reduce misunderstandings and friction between States of differing cultures, languages and political systems, these rules are general in construction and neutral in application. Specifically, in identifying the applicable law, these rules mediate the range of ‘…problems that arise when different legal obligations exist among the partners in a combined operation.’\textsuperscript{345}

The forces operating in Iraq were members of an ad hoc coalition (coalition of the willing). Whether or not the members are part of a coalition or part of a permanent group such as NATO is immaterial; providing they willingly participate in the operation under a unified command structure, this qualifies them as contributing to the combined operations. In battlefield conditions as in Fallujah, the speed of the operational activity both on the ground and in the air that commanders will have neither the time nor inclination to question the quality or veracity of the stream of superior orders requiring their attention.

In conjunction with this is the issue of different cultures and languages. With over fifty participating States, ... the rules deal with this situation by stipulating that ‘The legal obligations of a State … do not change when its armed forces are operating in a multinational force under the command and control of a military commander of a different nationality.’ As these rules are laid down in treaty law and custom, the habit has developed, when a dispute arises among the States, to leave those concerned to reach a compromise. One example given

\begin{itemize}
\item \textsuperscript{343} Fragmentary Order 946 (S) to CJTF-7 OPORD 03-036 ... which distributed the CJTF-7 Policy Memorandum to All Coalition Forces Personnel...’
\item \textsuperscript{344} HPCR above n8 375.
\item \textsuperscript{345} HPCR above n8 375.
\end{itemize}
being, as in the attack on the area of Fallujah which killed IHAT 271, one State may agree to carry out a lethal attack while another may strongly disagree. The operational tasks could be separated, where one State would deploy an aircraft to guide and protect the attacking aircraft deployed by the other State.\textsuperscript{346}

Correll\textsuperscript{347} writes that, following the Vietnam War the US government sought a new method, or approach on waging future conflicts. This “Revolution in Military Affairs” reflected the advances made in both civilian and military technology, moving increasingly towards control systems reliant upon space-based platforms. Its stated intention being not to destroy the enemy but achieve a strategic result.

This Effects-Based Operations strategy was the move away from the traditional titanic battles between massed armies to the more agile, responsive, forces of the present day. The variable conditions of warfare as found in Korea and Vietnam made accurate targeting difficult although there were instances of successful specific avoidance tactics by the US Air Force.\textsuperscript{348} From information to the aircrew who use it and the aircraft available. The three basic principles of weapons law remain: first, that the means and methods of warfare are not unlimited; second, the principle of distinction; and third, the principle of humanity which has retained its structure from the Preamble of the St. Petersburg Convention, to the text of API Article 35(2), then to the text of the CCW.\textsuperscript{349} The principle of proportionality now occupies a space in the idea of strategic integrated planning, introduced in the 2010 edition of the US FM - 50.\textsuperscript{350}

The following section addresses the theatres of war where such strategic planning was instrumented.

3.2 The Case Studies

The second attack on Fallujah is the campaign recognized as “the battle of Fallujah”, with the second, from 8\textsuperscript{th} November to 23\textsuperscript{rd} December 2004 (Operation Phantom Fury).\textsuperscript{351} Within these factual boundaries, the principle of proportionality is assessed during the course of the attack, with emphasis upon the issues of indiscriminate attacks, civilian objects and military objects. The attack on one of the populous towns in Iraq raised many issues, however of

\textsuperscript{346} In the LOAC, the word “attack” is strictly defined as an act of violence, whether in offence or defence. above n7 HPCR 11.
\textsuperscript{347} JG Correll ‘Casualties’ (June 2003) Air Force Magazine 48 - 53.
\textsuperscript{348} Hallion above n174 1-19.
\textsuperscript{349} Haines above n210 279-281.
\textsuperscript{351} Corderoy and Perkins above n305 1, 5; Head above n305 105, 105; Grant above n305 48, 53.
these, there were two legal aspects of particular importance; the rules concerning civilian objects and those concerning military objects.

Such was the complexity of this campaign, that it was difficult to decide on a specific item of civilian damage against which to assess the proportionality principle. So widespread was the damage and suffering across the face of the battle zone,\footnote{Grant above n305 48-53.} that this study decided to take a non-personal approach. By this was meant, building proxy civilian and military scenarios behind facts taken from real life sources; these being firstly the IHAT Database\footnote{The Iraq Historical Allegations Team above n321, followed two lines of enquiry; allegations of mistreatment and allegations of unlawful killing.}, which gives only numbers and no names; and for the second case-study, the experiences of a US tank commander in the ground war, which includes a reference to indiscriminate attacks.

3.2.1 A Fallujah incident – IHAT 271.

This data-base was used to provide an element of fact, and recognition is given to the tragedies behind the lists of victims of war. IHAT 271 gives a person a place within what has become known as one of the most vicious battles of modern times, an incident which would have been replicated many times over as the battle progressed.

3.2.1. a The reason the target was attacked.

The first battle of Fallujah, although considered successful at the time as it temporarily calmed the civic life of the city proved short lived, and the second battle was aimed at bringing to an end the strife between returning insurgents, various other interest groups and local civilians in preparation for intended local elections.

Designated “Phantom Fury”, the strategic aim of the second assault on Fallujah was to finally rid the town of insurgents, who had been increasing in numbers since the deaths of four foreign civilian workers earlier in the year. The terms of operational mission focussed upon identifying and destroying specific primary nodes of insurgent activity identified by intelligence reports, including that of indigenous Iraqi civilians, and associated with this, to attack individual insurgents who were targeting the Allied forces with a wide range of weapons from Rocket Propelled Grenades (RPGs) to small arms fire. To prevent the escape of insurgents to the outside world, and the re-supply of their weapons, a heavily policed cordon was thrown around the city,\footnote{Head above n305 105-120.} which remained in place until the end of the fighting.
3.2.1.b the weapons deployed in the air attack.

To re-iterate from the previous chapter, a precision guided missile PGM is a missile, bomb or artillery shell equipped with a terminal guidance system. Since the Kosovo war, great advances had been made in the development of precision vehicles and systems of all types of air and ground weapons, however restraints on laser-guided bombs include the fact that they need a clear line of sight between the laser seeker and the laser spot beam designating the target. A further restraint being their inability to operate to their best levels under adverse weather conditions, rain, dust.\textsuperscript{355}

It is noticeable by this stage in aerial warfare how many different types of “aerial vehicles” were being deployed in the Fallujah incident, with some names being applied to apparently different vehicles; as an example, an aircraft can be a fixed wing aircraft, a rotary wing helicopter, or an unmanned aerial vehicle (UAV). It is a strange fact that a “drone” can be called an aircraft, yet this is what they are; as with the MQ-9 Predator Aircraft. (n333). This particular drone has wings, a stabilizing structure similar to a tail, and looks like an aircraft. However, the drones of the future may look totally different and have different classifications altogether. The initials before the name of a military aircraft indicates the classification of its use; for example the F-15 aircraft means “Fighter” aircraft, with the number 15 indicating the particular model at a certain stage of development.

A wide range of aircraft of the variety of coalition Air Forces were deployed to airfields in the surrounding area, each country contributing according to availability and expertise. While the US provided the largest contingent of heavy bombers, strike aircraft and helicopters; specialised aircraft including intelligence gathering platforms such as the Boeing E-8a J-Stars\textsuperscript{356} together with the Boeing KC -135 re-fuelling tankers\textsuperscript{357} deployed by the US Air Force, without which the whole operation would not have been possible. From these, this Study considers three aircraft which were in continuous deployment during the battle, particularly during the first few days when the “persistent strike and surveillance” programme was at its height. The specific details of these aircraft have already been given in the previous section, 3.1.1.1., however this section illustrates their particular contribution to the outcome of the conflict in this specific circumstance.

\textsuperscript{355} Definition of a precision guided missile; \url{http://www.GlobalSecurity.org}, accessed 04/11/16.

\textsuperscript{356} Type: J-Stars; Manufacturer: Boeing; Specifications: Speed 405-445 kph; Altitude 41- 45,000 feet; Endurance 11.5 – 12.5 hours; Mission: Joint Surveillance Target Attack Radar System. \url{http://www.boeing.com/defense/jstars/index_specs} accessed 04/11/16.

\textsuperscript{357} Type: KC-135; Manufacturer: Boeing; Specifications: Speed – 530 mph; Altitude – 30,000 feet; Mission: Aerial re-fuelling and airlift. Re-fuels other aircraft via operator controlling the flying boom system. \url{http://www.af.mil/AboutUs/FactSheetsDisplay/tabid224/article1} accessed 04/11/16.
The large Northrop Grumman AC-130 Thunderbolt\textsuperscript{358} gunship carried a versatile armoury with weapons and ammunition to meet any demand from such a rapidly changing battle zone. Originally developed from the four-engine Hercules transport aircraft, it held not only state of the art weapons systems but also a crew of 14, among whom were intelligence gathering, electronic and communications specialists, the loss of which would have been a major setback, and was one reason the aircraft was deployed only at night. This contributed to the 24 hour non-stop prosecution of the war in Fallujah, partly aimed at wearing down the enemy but mainly through responding to call-ins from troops on the ground, where its 1.30mm GAU-8 7-barrelled Gatling machine gun and use of its and infra-red flares proved its suitability for night-time engagements. In addition, its suite of night-sensor equipment, structural strength in manoeuvrability, and armoury of precision weapons made it the primary aircraft for use in crowded urban areas. Targeting individual buildings, aided by surveillance data provided by ground forces such as the US Marine Corps and other forces, this tactic was intended to target only identified groups of insurgents and not local civilians remaining in the city.\textsuperscript{359}

Second, the Lockheed Martin F-16 fighter-bomber (US Air Force); deployed as part of the “persistent strike and surveillance” tactic. Valued due to its capacity for high-speed operational performance whilst deploying an armoury of varying types of precision weaponry and due to its precision abilities, used for the “first-strike a success” concept. First flown in 1974, with periodic up-grades, this aircraft carries a crew of one or two, the pilot and a weapons-control officer. Valued due to its capacity for high-speed operational performance whilst deploying an armoury of varying types of precision weaponry. First flown in 1974, with periodic up-grades, this aircraft carries a crew of one or two, the pilot and a weapons-control officer.

With a maximum speed of 1,320 mph and a cruising speed of 550 mph and with an operating range of 575 miles, the F-16 was in continuous operation during the battle. Its ceiling of 50,000 feet also gave it the ability to operate at the same levels as all the other aircraft involved, from the highest heavy bombers, down to almost roof-top height. Deploying a wide range of weaponry both internally and external; internal being the Vulcan

\textsuperscript{358} Northrop Grumman AC-130 Thunderbolt II. Specifications from http://www.ng.com/capabilities/A10ThunderboltII last accessed 05/11/16.
\textsuperscript{359} Head above n305 105, 126.
1.20 mm cannon Sidewinder missiles, while externally it carries a 12,000 bomb and munition load, including the Paveway, JASSM and JDAM bombs.\textsuperscript{360}

Because of its wide range of high speeds, this aircraft is chosen to represent the mid-line of the temporal triangle. (x/r p107).

Third, the Hercules Royal Air Force (RAF) C130K CI/3. Manufactured by Lockheed, it was deployed as a large air transport vehicle designed to carry troops, up to 28 passengers and 20 tonnes of pallet freight, stores and equipment. Powered by 4 Allison T56-A-15 turbo-prop engines, it has a maximum cruising speed of 310k; altitude 32,000 feet; with a direct range of 3,500 miles or 4,000 miles if re-fuelled in mid-air. Equipped with air and defensive countermeasures equipment; radar warning receivers; chaff and flare countermeasures; missile approach warning system; and “station keeping” equipment for use in cloud conditions.\textsuperscript{361}

Many different types of aircraft contributed by the Allied forces were based on airfields around the city of Bagdad, and in addition to the aircraft and helicopters, precision weapons in the form of missiles used in the Fallujah battle included;

First, the Joint Direct Attack Munition (J-Dam); GBU-38.\textsuperscript{362} Manufactured by Boeing, this is a guidance tail-kit which converts dumb (gravity) bombs into all-weather “smart” munitions. First launched from a B-2 in 1997, it has a launch-range of 5-15 miles, using GPS (autonomous) guidance system. The GBU-38 caused less collateral damage and eliminated uncertainties associated with laser guided bombs.’ and Dr Grant described this as ‘… the top air weapon for use in the urban environment.\textsuperscript{364}

Specifications include; weight 800 lbs; a Guidance semi-active laser (man-in-the-loop) system; a range of 8 nautical miles, and a CEP of 9 metres. Its mission being to neutralize targets at long-range with precision accuracy, it employs add-on laser sensor kits to prosecute moving, re-locatable or maritime targets, and modular capability enhancement resulting in a small diameter bomb with focused lethality and an ultra-low level of collateral damage. It can also be leveraged as a ground artillery weapon.

\textsuperscript{361} The RAF Hercules transport aircraft: http://www.raf.mod.uk/equipment/hercC1C3.cfm see also. http://www.raf.mod.uk/currentops/herrick-af.cfm
\textsuperscript{362} Joint Direct Attack Munition (J-Dam); GBU-38.
\textsuperscript{363} The Boeing Corporation www.boeing.com/assets/pdf/defense-space/missiles/jdam/j accessed 05/11/16; Federation of American Scientists (FAS); Military Analysis Network http://www.fas.org/man/dod-101/sys/smart/jdam.htm
\textsuperscript{364} Grant above n305 48, 53.
Second, the GBU-12 Paveway II laser-guided all-weather bombs. Manufactured by Texas Instruments, Paveway bomb systems are hybrids. In the centre of each system is a bomb which can be one of a various number of sizes; for example, a 1,000lb MK83 bomb for GBU-16. The operator illuminates the target with a laser designator, then the munition guides to a spot of laser energy reflected from the target. The laser guidance kit integral with each bomb ensures the degree of precision. When the target is illuminated by the laser (air or ground) the guidance fins react to signals from the controller who steers the weapon onto the target.

Specifications include a semi-active laser (man-in-the-loop) guidance system; Weight 800 lbs of differing sizes, 500, 1,000 and 2,000 lbs; with a range of 8 nautical miles; a CEP of 9 metres, and a Mission of Air Interdiction.

Such missiles were deployed during Operation Iraqi Freedom from aircraft such as the A-10, B-52 and F-15\(^\text{365}\), with other types of missiles being used for specific purposes.

3.2.1.c The proportionality assessment

In the previous chapter, Kosovo, the principle of proportionality was assessed ahead of the attack, whereas in this chapter, it is assessed at various points during the attack. This focusses upon the proportionality assessment in reaction to fluid and changing operations particularly in the chaotic and obscure battle conditions of urban warfare, compressing the time available for reasoned decision making. The issue of how it is assessed, on a case-by-case basis, is noted within the circumstances of each event as it arises, and this section considers the situation where circumstances change between the beginning of the mission, when the crew are in possession of the rules of engagement (ROE) as produced by the commander, and the launch and tracking of the weapon onto the target.

It is emerging from the literature that a considerable number of civilian casualties are caused when the aircrew of engaged aircraft are forced by circumstances to make a rapid second attack on the same target, this giving rise to the situation where there is little or no time for re-evaluation of the target.\(^\text{366}\) Two operational frameworks set the legal boundaries for military units engaged in warfare, the Rules of Engagement, (ROE) and the guidance of the commander. ‘Commanders provide guidance on the use of force and communicate their guidance regarding CIVCAS mitigation in a number of formal and informal ways, including


\(^{366}\) Dunlap Jr above n7 ‘Clever or Clueless…’ 139, 141.
through daily briefs, battlefield circulation, interaction with host-nation officials, and conversations with Soldiers.' 367

Referring again to the work of the C&C Centres and their teams of analysts, the issue of available data and information remained a similar challenge to that in the Kosovo campaign. Here the problem is not purely the mass of information itself, but the lack of required information needed at a specific time for a specific strategic purpose, 368 giving as examples military intelligence, battle-damage assessments and mission reports. This may appear to be at odds with the claim of “information overload”, but in reality it means that out of an endless stream of data only a few items may be necessary to contribute to the operation of the mission in hand. Clark and Cook note that what is required is some attempt at limitation; ‘… as the OA 369 team assessing Operations Iraqi Freedom and Enduring Freedom struggled to provide the commander with an effects-based assessment of his objectives. In that case, team members decided to limit themselves to assessing performance, leaving the assessment of effects to the supported command who briefed this to the deputy combined force combined component commander along with a performance assessment conducted by the OA team’.

Turning to the subject of the case-study, IHAT 271. It was a square, white 3-storey building, indistinguishable from hundreds of others built close together in the centre of Fallujah. Since the beginning of the fighting, over 70% of the population had fled the city, 370 and from the results of military surveillance of the building and its environs, it was deduced that the groups and individuals making use of the property belonged to the IHL classification of “insurgents” and were using the house as a base to launch attacks against the Allied military forces. As the air strikes continued their attacks, many houses, if not whole blocks of property were destroyed, resulting in casualties not only of insurgents but also of civilians who had remained in the area and Allied military forces.

This was not a quiet operation. Apart from the non-stop barrage of air and ground forces using both precision weapons and dumb bombs, strafing by fighter aircraft, the roar of tanks and artillery during the day, and the rolling waves of attacks by the US Air Force A-10 attack aircraft, and the small-arms fire of the US Marines and other forces who had, due to the availability of infra-red equipment, the ability to fight by night as well as by day.
The grinding heat associated with desert climates, together with shortages of water and electricity all added to make this Allied mission as difficult as possible.

Not all the pilots would be immune to this din of battle. Obviously, the bombers flying at 35,000 feet would be out of range, but for helicopters and other low-flying aircraft, the noise would have been considerable. The ground forces were not protected from this noise despite the heavy helmets, and the earphones worn by section commanders through which battle orders were relayed. The incessant clamour of the exchange of information was another source of endless noise, but one which was not altogether unfriendly to Allied forces. One aspect of the Fallujah battle order, the integration of both air and ground forces, meant that frequently troops trapped on the ground would call up for air strikes to remove the problem. The result, “dynamic targeting” leaves very little time for the Judge Advocate Generals (JAG)s to make reasoned reviews of the un-rolling situation, and hence excessive civilian injury may result, with the question remaining to be asked, how much time was there for any consideration of proportionality?

It is clear that the circumstances of the death of IHAT 271 may never be known. Was he or she in that square white house? During aerial bombardments, civilians would frequently move from their own home in search of safe havens from the barrage, only having to move again as the barrage encroached deeper into the city. However, the issue of discrimination between civilian and insurgent moved with them.

The deliberate fielding of precision weapons highlights the certainty in the minds of the planners that these would accomplish the aims of the overall mission, to bring an end to the use of Fallujah as a base for insurgents. This strike holds several lessons for this study, demonstrating the pin-point accuracy of the precision weapons, ranging from air launched missiles to those fielded by tanks and other land based weapons systems. Fenrick observes however that it is difficult to analyse with any accuracy the application of the proportionality principle in relation to the time and space a strike occurred.

He reminds us that a deliberate attack on civilians at any time is unlawful, and also, “… the standard of measurement must be one that is practicable to use in advance and it must be possible to determine whether any assessment of the proportionality calculus is being met at various stages in the conflict”. This stipulation would be difficult to determine in

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371 CJ Dunlap Jr above n7 ‘Clever or Clueless…’ 139, 144.
372 The issue of indiscriminate attacks is addressed in the case-study, “The Tank Commander”.
373 Fenrick above n260  489-502.
situations such as during the air attack on Fallujah due to the rapidity of the unfolding events, changing from one minute to the next.

3.2.1.d The temporal triangle

The F-15 fighter-bomber (US Air Force) deployed as part of the “persistent strike and surveillance” tactic, occupies the mid-line of the triangle, having a speed of over 1,000mph and operational ceiling of 35,000 feet.

Considering what constitutes the background to this mid-line, the re-assessment of proportionality during an attack is traditionally the most difficult time to attempt such an operation as each assessment will differ according to the facts of the situation both in the air and on the ground. Which will come first in the mind of the commander and the JAG in the command and control centre, the safety of the Allied troops or the safety of civilians. The deployment of front-line commanders embedded with the troops greatly enhanced the flow of critical information at the point of the action itself, increasing the soldier’s awareness of civilians even when the civilians were not visible to the soldiers themselves. Such networking of information is increasingly important when the pace of operations is so rapid and the risk of mistake on all sides is correspondingly increased.

The critical area of concern to the commander is that of information. At the CDDH, the United States noted: Commanders and others responsible for planning, deciding upon, or executing attacks necessarily have to reach decisions on the basis of their assessment of the information from all sources which is available to them at the relevant time. Further, Spain’s LOAC Manual states that: “if in the course of an attack the objective appears not to be military, the commander shall deviate or cancel the attack”. The Civilian Casualty Mitigation report notes that ‘The time available for an operation will affect the ability to incorporate CIVCAS mitigation during planning and preparation, including the gathering of accurate intelligence that may help prevent CIVCASs. The time available to conduct an operation may determine whether units can use tactical patience to prevent CIVCASs.’

The Introduction (p2) stated that in the case of Fallujah, the pilot or the commander may have, at the most, half the usual time for considering a proportionality based

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376 ATTP 3-37.31 above n305 3-1. 1-12 1-69.
377 These two words again, may be used for the person in control of an operational aircraft, as, if he is flying solo, he bears responsibility; should he be the lead pilot of a flight of two or three he would bear the responsibility for the actions of the others. At the same time, a pilot may be on duty in a C&C Centre, but his responsibilities there would be the same as the other commanders on duty at the same time.
decision. This is based upon the speed of the aircraft on release of the missile in relation to the distance to the target; the higher the aircraft speed, the shorter the distance and therefore the less thinking time available. The phrase “the usual time” is entirely relative to the other aircraft used in this triangle, as with the pilot of the A-10 in the Djakovice Convoy incident, who would have had twice the length of time at least, with the lower aircraft speed of 450mph.

3.2.2 A Fallujah incident: the tank commander.

In this study, the subject is the commander of an Allied tank, one of many used in conjunction with and in support of the US Marines and other ground forces deployed in the second battle of Fallujah. This illustrates the point that whereas precision weapons are revolutionising the war in the air, both ground and naval forces are being equally affected. However, Sandoz notes that there are particular rules of the LOAC which apply solely to ground forces, and these principles and rules are to be observed by foot soldiers and their commander. He proposes that these fall generally into three categories; first, to have respect for the protection of civilians and civilian property; second, to have respect for the protection of other non-combatants, and third, the attitude of the combatant against the enemy. It is the first, respect for the protection of civilians and civilian property which is addressed in the following section.

3.2.2.a the reason the target was attacked

The strategic reason for this attack is given earlier in this chapter, x/r page 80. This particular attack by one of the Allied forces vehicles represents the “ground war” which was prosecuted concurrently with the “air war”, both working jointly to attain the military advantage. This building appears structurally the same as to that involved in the previous case-study, however what sets this building apart is the re-assigning of a previously protected property, a civilian house, into a target which can be legally attacked. This must be seen contextually; ‘… attacking an apartment building occupied by civilians yields no military advantage, whereas attacking the same apartment building when used for billeting of troops would result in military advantage.’

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378 These include, ‘respect for and protection of civilians and civilian property; the principle of humanity and the obligation to ‘protect’ civilians; the principle of distinction; the principles of precaution and proportionality’ above n306 Y Sandoz in Clapham and Gaeta 92.
379 above n306 Y Sandoz in Clapham and Gaeta 92.
380 HPCR above n8 88.
381 HPCR above n8 36.
Again, what is noticeable is the speed at which the action occurs. Modern tanks have the capacity for both speed and manoeuvrability, but this will be limited when the vehicle is trapped in narrow roads and lanes which are sometimes deliberately blocked to impede their progress. Whereas the pilot of an aircraft has an overall, possibly unrestricted view of his target area, the tank crew, in such battle situations, are frequently progressing into the unknown, where they cannot see whether the road ahead of them is impeded by rubble and wreckage, or even land-mined and booby trapped, leading to severe problems in accuracy of targeting.

A key point here, addressing the precision weapons used, is that their effects may be compromised by the conditions under which they are, or are attempted to be, used.

3.2.2.b the weapons deployed in the attack

The heavy artillery was based on tanks, including the M1A1 Abrams battle tank. With a crew of four, a speed of 42 mph, and a range of 215 miles. Armament included 120mm cannon; 50 calibre machine-gun, and two 7.62. M240 machine-guns.

In addition, the smaller but equally lethal, the Bradley Fighting Vehicle. With a crew of six, a speed of 45mph and a range of 300 miles. Armament included wide range of cannon and machine-guns. Used by infantry in close-operation fighting with the enemy. The M109A6 Paladin Howitzers; 150 mm artillery pieces, launching shells capable of travelling over 13 miles. With a crew of four, a speed of 38mph, but no line of sight. Armament included 39 calibre M284 cannon assembly fitted with the M182 A1 mount; 0.50 calibre M2 machine-gun.

In this group, the objective of Sine’s “precision” concept can be observed, where each weapon is chosen specifically to prosecute a specific task with the least amount of individual injury and collateral damage.

In addition to the aircraft participating in the “wedding cake” stack, MQ-1 Predator aircraft was highly valued as it can overcome the “line of sight” issue and find its own way to the target. Manufacturer, General Atomic Aeronautical Systems, its specifications include a speed of 120 KTAS at an altitude of 25,000 feet and an endurance time of 35 hours. Included in its Mission; Information, Surveillance and Reconnaissance (ISR); interdiction; close air support; force protection; combat search and rescue; remote operations video

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379 “Beyond line of sight” weapons are deployed where ‘… the target cannot be visually identified, for instance because it is too distant (“over the horizon”) or where it cannot be seen to night, weather conditions, terrain, etc.’ above n8 HPCR 74.


384 MQ-1 Predator http://www.ga.asi.com/aircraftplatforms accessed 04/11/16; above n305 Head 120; above n308 Grant 50. 
enhanced receiver’s operations. Indispensable in “persistent battlespace” areas. Has both line of sight and beyond line of sight capabilities. (As this aircraft plays a major role in the following chapter, Afghanistan, no more comment is added here.) In addition, Joint Direct Attack Munition (J-Dam) – GBU-31- GPS Guided Bombs were deployed, together with large numbers of dumb gravity bombs.385

3.2.2.c the proportionality assessment

Is the principle of proportionality, which applies throughout all stages of the attack386, being affected by the use of precision weapons? This section considers whether or not this is the case, and depends upon whom is making the decision to deploy these weapons, and how the information is assessed. In the present situation, this task is performed by one of the Allied commanders with, increasingly, a lawyer of the Judge Advocate’s Division.

Contemporary military use of the word “commander” embraces a wide range of ranks and command levels, from the highest to the lowest, having the same structure in both air and ground forces. There can be a pilot in an F-16 designated as a commander when assigning responsibility for the outcome of an air strike, for example, and the tank commander in a US M1 Abrams tank who bears command responsibility during an attack on an enemy target. What different levels of rank signify is to signal the level of security of information the holder is allowed to acquire and activate.

Following the First battle of Fallujah, US forces and their weaponry had remained in Camp Baharia, a short distance from Baghdad, and so were not exhausted from long journeys to the combat zone.387 The tank commander would be given, over secure lines of communication only what is necessary for him to complete the phase/s of attack stated in the ROE, these communicated from the Command and Control centre in, at the highest level, the US Combined Air Operations Centre in Qatar.

Even within the strict confines of a tank there is an hierarchy of command, the commander at the apex who assesses and disseminates the received information, followed by the ammunition loader, then the two gunners, one on either side of the vehicle. Only the commander has a good field of vision from the turret, and even this is restricted by buildings and clouds of debris and smoke when fighting in such close quarters.

The second battle of Fallujah had been pre-planned for a week before the battle began, and as detailed from the first minute the tanks and Howitzers, including that of the

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385 J Dams above n362; Head above n305 120.
386 HPCR above n8 100.
387 Head above n305 105, 112.
tank commander, began a barrage of sections of Fallujah with the intent of removing insurgents from among the civilian population. As the heavy armour moved into the outer areas of the town, US Marines and other ground forces were deployed together with the air support strikes of US heavy bombers dropping waves of dumb-bombs, and F-16 fighters carrying precision weapons for use against strategic targets.

The crew of the tank had seen precision weapons in action before, in other areas of the Iraq war, yet their accuracy of these weapons never failed to impress. They had received orders to attack a specific target from where insurgents had been seen firing upon Marine patrols, and had planted a shell onto the target. A Marine patrol who went in to check for survivors found only the remains of two civilians in the rubble, although, as was to become a regular pattern, it was not totally clear if they were civilians or insurgents.

As a tank crew, they were aware of the risk of facing charges of launching an “indiscriminate attack”. It is stated that there are special LOAC circumstances attaching to war on land. One expert states there are three duties every soldier should have particular regard for; first, the protection of the civilian and his property; second, he has an obligation to other soldiers when one of them is injured and is hors de combat, and to the enemy who wish to surrender and clearly signal their intention; and third, soldiers are under certain restrictions in relation to the enemy. In addition, there are specific rules of the LOAC which apply to commanders fighting a land battle. The three most relevant being the responsibility for violations committed by subordinates; the responsibility for planning and carrying out an attack; and the responsibility for the methods of warfare and choice of weapons.

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388 This Study has written the following four paragraphs as representing the proxy tank commander and his crew to give a feel of the immediacy of the issues affecting them, and do not relate to any Allied personnel.

389 See note 76 infra; The problem of civilian populations intermingling with belligerents is historic, but was particularly well documented in the Vietnam War (1962-1972) The enemy of the US forces, the Vietcong frequently used such protected places as temples and hospitals in addition to villages and towns, normally immune from attack under the then US ROE which were consistent with API and APIII of the Geneva Conventions (not codified until 1977). The Vietnamese forces also had their rules of engagement, and Reynolds quotes from them making the important point about the bombing of cities that such attacks, “…on targets in urban areas must preclude unnecessary danger to civilians and destruction of civilian property, and by their nature require greater restrictions than the rules of engagement for less populated areas”. JD Reynolds above n 304 1, 6.

390 The prohibition against indiscriminate attacks arises from Article 51(4) 1923 Hague Rules of Air Warfare (a) those which are not directed at a specific military objective; (b) those which employ a method or means of combat which cannot be directed at a specific military objective; (c) those which employ a method or means of combat the effects of which cannot be limited as required by this Protocol. Dinstein above n 7 117; J Beard above n 174 432, 440; Corderoy and Perkins above n 305 1, 22.

391 Sandoz above n 306 92.

392 Sandoz above n 306 108.
It is clear that on the one hand, the tank crew are trained to protect civilians\(^\text{393}\) and yet on the other, on occasions, they are told to demolish their property.\(^\text{394}\) They are taught in training school that civilian property can be re-classified as enemy property under The Hague Regulations if it is proved to be occupied by enemy forces.\(^\text{395}\) This is nevertheless almost impossible to formulate when insurgents do not wear any recognizable uniform or symbol. Yet the principle of proportionality itself remains difficult to understand,\(^\text{396}\) however, what all the crew agree on that is that it can be made more comprehensible to people like me who are obliged to consider it if feasible under conditions of severe time constraint.\(^\text{397}\)

We hear this integrated air and ground attack using precision weapons is to continue non-stop day and night, so if successful as a strategy it may have some effect on the way wars are fought in the future. One thing that cannot be controlled however is the weather. In Iraq it is not unusual to have sandstorms, high humidity and temperatures over 90 degrees,\(^\text{398}\) despite the cooling system inside the tank offering some relief.

The weather challenges the concentration; for example, one moment we are told not to fire into a certain house because it may contain civilians, the next, we are told to destroy the house because an insurgent has been spotted going in over the roof. By this time, we have passed the house but the road is too narrow for us to turn around in and we have to go metres further down in order to do so. At this point it may be faster for us to contact ground forces, if there are any in the area, and if the communications channels are not blocked, and we may or may not learn in the post-battle briefing whether or not our target was sufficiently important for it to be eventually destroyed.

\(^{393}\) The issue is that of assessment during the attack. API Article 48 provides the basic rule: In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objects and accordingly shall direct their operations only against military objectives. n 5 API Art 48; US Army Rules; in addition, Article 58(a) API states that the Parties to the conflict shall, to the maximum extent feasible, “without prejudice to Article 49 of the Fourth Convention, endeavour to remove the civilian population, individual civilians and civilian objects under their control from the vicinity of military objectives”.

\(^{394}\) The issue of the civilian house which became a war target, a “military objective”, which was first defined in Art 24 (1) of The Hague Rules of Air Warfare, where it was stated that only military objectives could be bombed by aircraft. This regulation was later reiterated in AP/II Art 52 (2), and in line with the thinking of the Group of Experts, as a general principle, these rules applied to conflict on land, sea, and in the air.

\(^{395}\) Article 25 Hague Regulations Respecting the Laws and Customs of War on Land.

\(^{396}\) The articles in AP/I do not refer to the principle of proportionality by name in any of their texts. What they do refer to are the attendant conditions; “indiscriminate attacks”; the steps to be taken to avoid damage to civilians and civilian objects, and grave breaches of the Protocol incurred … the “excessive loss” principle.

\(^{397}\) Returning to the text of AP/II, Article 13 ‘codifies the general principles that protection is due to the civilian population against the dangers of hostilities already recognized by customary international law and by the laws of war as a whole’.

\(^{398}\) Dill above n305 1-6.

\(^{399}\) AJ Hebert ‘The Road to Victory’ (May 2003) Air Force Magazine 10, 15.
Turning from the testimony of the commander to the textbooks, despite unceasing efforts to ensure the principle was adhered to during the many incidents of precision attacks from both air and ground precision systems, proportionality remains an entirely subjective issue. In discussing military objectives, Schmitt notes that ‘…no objective means of valuing either incidental injury/collateral damage or military advantage exists. Instead it is the subjective perspective of the party carrying out the proportionality assessment that matters.’

Remembering what was taught to the tank commander, Additional Protocol I Art. 51(5) states that:

(a) an attack by bombardment by any method or means which treats as a single military objective a number of clearly separated and distinct military objectives located in city, town, or village or other area containing a similar concentration of civilian or civilian objects: and

(b) an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated. Referring again to Article 57(2), to the final sentence ‘… direct military advantage anticipated…’ This military advantage is known to the commander before the event, the ROE. It links to the initial requirement for feasible precision, yet should the situation change with time, his (the commander) thinking of the advantage will also change. Additionally, his expectations as to the outcomes may change. What may have been a high level of success will require an ongoing review with the possibility of last minute changes to the initial plans.

A contemporary view of proportionality is that the principle of proportionality is involved with the injury and the death of innocent civilians as a result of military strikes against military objectives. First, as noted earlier, many prohibitions on the means and methods of warfare apply to all three services, land, sea and air. Specifically though ‘Precautions must be taken in air bombardment to avoid civilian death or injury and damage to civilian objects.’ In addition, unless special circumstances do not permit it, effective

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400 API Art 57.
401 Dinstein above n7 59.
402 MOD above n37 12.26 i.
advance warning must be given of air bombardment that may affect the civilian population. Such warnings lie within the remit of the commander and the planning team.

The safety of civilians is also the concern of organisations such as the International Red Cross and the Red Crescent Movement as in State Practice “Precautions Against the Effects of Attacks” p.440 V. 449. Movements which have to pass through or close to populated areas shall be executed rapidly…. Even a temporary military presence can create a dangerous situation for the civilian areas and persons. Units located in or close to populated areas shall be so deployed as to create the least possible danger to civilian areas … appropriate distance between militarily used houses and other buildings.

From the myriads of relationships possible between the participants and objects in a conflict, there is one concept which encapsulates them all; ‘For an object to qualify as a military objective, there must exist a proximate nexus to military action (or war-fighting)’. Additionally, in land warfare, the terrain of the tank commander, the acid test is whether a specific geographic site, building, or factory, is being defended by members of the military, and not by civilians. In chaotic situations, as in Fallujah, it may be difficult if not impossible for him or his crew to make a positive identification of a certain building due to immediate environmental stressors (smoke, dust, noise, moving shadows in the intense heat); it may be possible with the aid of GPS equipment, but shortage of time will place severe operational pressures upon this crew and of the other vehicles involved in the mission.

The training of commanders and the legal teams working in the Command and Control Centres are increasingly focussed upon the use of precision weapons in the urban environment. From days to hours in the Gulf War, down to 45 minutes in the Iraq war. Working from Langley AFB in Virginia, US, teams of analysts monitored military developments and controlled the airborne operations of the UAV’s in Iraq. Such technologies impact directly upon the authority exercised by strategists and commanders, both political and military. Real-time data from space satellites (space-data from here on) inform their decision-making obligations. This study acknowledges that much military data is sensitive and so unavailable for public research, however, much general detail is in the public realm; for example, in the form of Doctrines.

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403 MOD above n37 12.26 j.
404 Dinstein above n7 87.
Military manuals provide imperative guidelines for commanders ahead of an attack; one example being for the planners of the campaign objective. ‘A campaign objective is a goal, expressed in one or more decisive conditions that needs to be achieved.’ This chain takes into account all the available details necessary to achieve the strategic objective. ‘A strategic objective is a goal to be achieved through one or more instruments of national power in order to meet the national strategic aim’ and will contain both long and short-term planning views on how to achieve that objective. This latter objective will be undertaken at the highest level of command.

The Military Manual (2005) of the Netherlands states: at 0511. The circumstances of the time are decisive to whether an object constitutes a military objective. The definition leaves the necessary discretion of the commanding officer. The Dutch government, in ratifying [1977 Additional Protocol I], has declared in this connection that military commanders who are responsible for carrying out attacks must base their decisions on their evaluation of the information available to them at the time… Similarly, the US Naval Handbook (2007) notes that “the commander must determine whether the anticipated incidental injuries and collateral damage would be excessive, on the basis of an honest and reasonable estimate of the facts available to him.” This emphasis upon the “information available to them at the time” is one of the major factors of decision making, old information is worse than useless, running the risk of unnecessary loss of life on all sides in a conflict. The Military Manual of the Netherlands puts it even more precisely;

Once an attack has been launched the issue of cancellation or suspension may arise, in principle, the same rules apply as to the refraining from deciding to launch an attack in the preparation phase.

The extent to which commanders and their possible staff will be held accountable to comply with these rules depends upon three factors:

- Freedom of choice of means and methods.
- Availability of information.
- Available time.

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406 JDP-340 1050 p 166.
407 JDP-340 1050 above n406 p 166.
The higher the level [of command] the stricter the application of these rules can be required.\textsuperscript{410} It is noted that the Netherlands is the only State where the concept of time itself is admitted as a relevant factor.

In addition, the principle of precaution is a duty imposed upon commanders at command level, and is closely related in its aims to both proportionality and to distinction in that it’s central concern is the security of the civilian. It considers all elements of an attack, from the initial decision of which target to strike, to the final choices and the reasons for them. The concept of command responsibility was first enunciated in the case of General Yamashita,\textsuperscript{411} and from that judgement, together with a later Commentary, a test was determined to elucidate responsibility if ‘… he has actual knowledge or should have knowledge, through reports received by him or through other means’.\textsuperscript{412} However, there is as yet no agreement on the nature of command and the degree of knowledge required.\textsuperscript{413}

The commander as an actor is coming under increasing scrutiny as his task becomes more difficult with the technological advances which influence the performance of the weapons under his control. Despite this, ‘… conventional military forces in Iraq kept remarkable faith to the law of armed conflict. In general, this occurred in spite of, rather than because of, actions at the strategic level. In no small measure this was due to the efforts of judge advocates who accompanied the forces into combat.’\textsuperscript{414}

It is proposed that, through such scholarly contributions by Boivin\textsuperscript{416} and Dill\textsuperscript{417}, that the principle of proportionality is progressing into a modern phase of warfare, a radically different position from that described by Gardam\textsuperscript{418} at the beginning of this chapter where it languishes in a state of neglect.

3.2.2.d The temporal triangle

There is no application of the triangle in relation to the tank battle.

3.3 Application of the temporal triangle

The US F-15 fighter-bomber, deployed as part of the “persistent strike and surveillance” strategy, occupies the mid-line of the triangle, having a speed of over 1,000mph and operational ceiling of 35,000 feet.

\textsuperscript{411} UK MOD above n402 438 16.36.1. Case of General Yamashita (1946) AD Case No 111.
\textsuperscript{412} UK MOD above n402 438 16.36.1.
\textsuperscript{413} UK MOD above n402 439 16.36.4.
\textsuperscript{414} Warren above n305 167, 168.
\textsuperscript{415} Boivin above n260.
\textsuperscript{416} Dill above n305 1-9.
\textsuperscript{417} Gardam above n1 391-412.
As the bar of the triangle moves upwards, so the background environment constricts, as does the time available for commanders to consider any available options open to him. The background is as equally important as the baseline, as it represents the total environment in which the proportionality principle operates; in both the physical terrain of the land battlefield and the air space of the aircraft and precision weapons, and the human subjective space of the decisions of the commander, of the contents of superior orders, and the intentions of humanitarian conventions.

In complex situations such as in Iraq, the commander will be aware that some strategic decisions are made at the highest levels, at the points where political necessity and military strategy co-exist. An example being taking the bombing to urban war zones based on the premise that precision weapons will neutralize the risk of civilian casualties. This may be the intention on paper, however urban warfare carries with it other additional responsibilities in, for example, the form of warning the population of impending raids, and these force additional data into the amount of time available. It is noted that the manufacturers of the Predator aircraft include in the specifications “ISR” and “close air support”. If this real-time data can be delivered to troops and pilots fighting in crowded urban situations it has the potential to reduce the level of individual injury and collateral damage to what could be expected in such situations.

What is changing in contemporary warfare is the length of time necessary for the completion of a mission. The reduction in time for the completion of this data-chain was rapid. From days to hours in the Gulf War, down to 45 minutes in the Iraq war. Working from Langley AFB in Virginia, US, teams of analysts monitored military developments and controlled the airborne operations of the UAV’s in Iraq. Such technologies impact directly upon the authority exercised by strategists and commanders, both political and military. Real-time data from space satellites (space-data from here on) inform their decision-making obligations. This study acknowledges that much military data is sensitive and so unavailable for public research. However, much general detail is in the public realm; for example, in the form of Doctrines.

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419 Alberts et al note that ‘… it is important to recognize that under the pressure of time or uncertainty some of today’s decisions are made either by default of by individuals who may not have all the expertise or even training or experience necessary to be proficient.’ DS Alberts, JJ Gartska, FP Stein, *Network Centric Warfare: Developing and Leveraging Information Superiority* 2nd Edition (Revised) CCRP Publication Series www.af.mil/au/awc/awgate/awc-law.htm 126.

420 See note 52 supra.

Contemporary urban warfare requires that this environment be networked in a matter of possibly a mere few seconds. The following chapter, Afghanistan, takes this a step further in considering whether or not aerial vehicles in the form of drones deal with this paradigm in a more efficient way.

3.4 Conclusions

Is the proportionality principle being constrained by these pressures of urban warfare? Fenrick observes that it is difficult to analyse with any accuracy the application of the proportionality principle in relation to the time and space the event occurred. He reminds us that a deliberate attack on civilians at any time is unlawful, and also, ‘… the standard of measurement must be one that is practicable to use in advance and it must be possible to determine whether any assessment of the proportionality calculus is being met at various stages in the conflict’.\footnote{Fenrick above n260 ‘Targeting and Proportionality during the NATO Bombing Campaign against Yugoslavia’ (2001) 12 EJIL 3, 489-502; ATTP 3-37.31. above n 305 1-11 1-62; ATTP 3-37.31. above n 305 1-12 1-69; Corderoy and Perkins above n 305 1, 19}

Following the second battle of Fallujah, this assessment would appear difficult given the view that the battle, although short, was complex and problematic and as a result, any research following the battle would find it difficult to sift the truth from the disingenuous. What is known is that in one of the attacks which killed IHAT 271, and in another attack the tank commander would have been overwhelmed with information. In the wake of the battle however, the plethora of information has been largely scientifically and coherently classified and catalogued.\footnote{For example, M Hsiao-Rei Hicks et al ‘The Weapons That Kill Civilians – Deaths of Children and Noncombatants in Iraq, 2003-2008’ The New England Journal of Medicine (April 16 2009) 1585-1588. and The Iraq Body Count http://www.iraqbodycount.org/about accessed 28/06/2010.} However, proportionality assessments are undertaken only if an investigation is necessary following a specific event when breaches of the principle were specifically claimed, as in the two Kosovo case studies.

Every stage of this conflict was planned upon the established rules of western military engagement as applied to the Allied army and air forces, incorporating the rules and proscriptions of the LOAC including proportionality. It is true however, that the framers of the Additional Protocols were living in a different global era, of the Cold War and the deployment of the earlier versions of precision weapons; yet these rules retain their veracity although it is claimed by some observers\footnote{‘Virtual weapons systems are poised to transform the conditions of future battlefields for humans and change law, war and military institutions in profound, far-reaching ways.’ Beard above n305 409, 455.} that new treaties or conventions are required to deal with the elemental changes fuelled by precision technologies and the evolution of the
military drone. The importance of Article 36\textsuperscript{425} is noted by Haines, ‘Implicit in this requirement is an assumption about the relationship between technology and law by which the existing law should constrain weapon development rather than new weapons technology drive the shaping of new law.’\textsuperscript{426}

The matter of indiscriminate attacks is similar to proportionality in that it is an “after the attack” forensic inquiry. Article 20(b)(2) of the 1966 ILC Draft Code of Crimes against the Peace and Security of Mankind “[launching] an indiscriminate attack affecting the civilian population and civilian objects in the knowledge that such attack will cause excessive loss of life, injury to civilians or damage to civilian objects constitutes a war crime.”\textsuperscript{427}

In both case-studies, there would be an immense problem in determining whether attacks were launched with such knowledge together with the intention of causing excessive levels of death and injury. Precision weapons were used specifically to avoid such situations, and it was made clear during the long pre-planning stage that civilian security was the priority on the commanders list of orders. In the event, it was the co-locating between insurgents and non-combatants in a crowded urban setting which led to the previous problems. There is no ready answer to this, except by influence, whereby civilians come to appreciate the benefits of different belligerents publicly showing their allegiances, but this is a long-term issue in other social fields.

During this battle, another issue emphasised was that of information, and the problems this presents to the commander and the planning team. This is one paradox of modern warfare; the more information that is generated to assist him in decision making, the more likely it is to produce the reverse effect, of so overloading the communications systems that they either malfunction or fail entirely, thus depriving him of any information at all. ‘…battlespace knowledge consists of tacit information. Tacit information requires interpretations. While supporting “facts” can be easily transferred, the underlying organizing logic can seldom be transferred quickly and easily.’\textsuperscript{428} There does exist a computer algorithm which, when inserted into a command and control system of an aircraft can automatically

\textsuperscript{425} Haines above n210 275.
\textsuperscript{426} Haines above n210 275.
compute a proportionality balancing mechanism, however this is not the same as the pilot making a last-second attempt to avoid civilians within the target zone.

All members of the armed forces are trained in the rules of the law concerning the main aspects of weaponry and what makes the differences between legal and illegal weapons. However, how much responsibility can the pilot, as the holder of authority in the aircraft, be expected to carry. He may be pulled two ways; in obeying the orders in his flight plan, or possibly deviating from them should a “humanitarian” situation arise. Some of the aircraft concerned, the B-52 bomber, flies at high altitude over 30,000 feet. From that height, at the top of the ‘inverted wedding-cake’ structure of the aircraft stacked above Fallujah, the ground may be clear or obscured due to cloud or local conditions such as fog or smoke, rendering visual analysis of any detail impossible, with the pilots totally reliant on GPS navigation equipment.

Nevertheless, as in any highly trained force, the pilots will carry out the task in hand, understanding that there is some reasoning behind the raid which builds into the overall strategy for prosecuting the war. At present there are abundant guidelines; the ICRC notes that the implementation of the rules of civilian protection shall apply ‘…both during the planning, decisions and action stages of the attack, and by the party that is attacked’. Further, the HPCR state that ‘the principle of proportionality applies throughout all stages of an attack, from planning to execution. Anyone with the ability and authority to suspend, abort or cancel an attack must do so once he reaches the conclusion that the expected collateral damage would be excessive in relation to the anticipated military advantage’.

There are laws in existence reminding host countries of their responsibilities, as an example, Iraq’s Law of the Supreme Criminal Tribunal (2005) identifies the following as a serious violation of the laws and customs of war applicable in international armed conflicts: Intentionally launching an attack in the knowledge that such attack will cause incidental loss of life or injury to civilians or civilian damage which would be clearly excessive in relation to the concrete and direct overall military advantages to be gained. Also - Article 58(a) AP I states that the Parties to the conflict shall, to the maximum extent feasible, “without prejudice to Article 49 of the Fourth Convention, endeavour to remove the civilian population, individual civilians and civilian objects

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429 Grant above n305 41, 52.
431 HPCR above n305 100.
under their control from the vicinity of military objectives”. Article 58 AP I was adopted by 80 votes in favour, none against and 8 abstentions.433 Rogers notes however, that no matter how stringent the precautions undertaken by the belligerents, the civilian remains open to the risks of injury or death which involvement in any combat zone will naturally bring his way.434 This study does not agree that such steps as creating new conventions would clarify the matrix of proportionality at this stage unless a totally new concept arises. It is felt that the principle of proportionality, when honed down to its basic meaning, as in Dill435 is sufficient to communicate the requirement of not harming more civilians than is absolutely necessary. The real problem then is not proportionality itself, but the unintentional shortcomings in the ability to process its meaning within a “human” time-frame.

As Dinstein has noted436 the norms which aim to protect the civilian in times of war are man-made. Made by other humans at other times not affected by the current conflict. This should provide them with an air of neutrality but as will be seen it is in their interpretation, as with many forms of legal constructions, that the problems arise. This is never more true than in the case of the principle of proportionality. As in the studies of Kosovo and Iraq, the principle itself held its central claim as a protector of civilians during armed conflict, excessive civilian casualties resulting from mistakes by military personnel in recognition and targeting, failures and mis-firings of weaponry, and the interaction of insurgents, the military and the civilian population in the urban space. Fallujah is an excellent example of proportionality being assessed during the attack, a situation likely to be repeated in conditions of urban warfare.

This Study proposes that that the assessment and application of the principle of proportionality during the attack on Fallujah was seriously eroded in so many circumstances, and in so many instances, due to the speed and complexity of the military action, that there was, in many occasions such as the attack on the house of IHAT 271, no time whatsoever for a commander to begin to assess it before initiating an attack. Similarly, even with the assistance of his tank crew, their commander could on many occasions have little or no time

434 Rogers above n30 9.
435 Dill above n305; She proposes that “… the principle of proportionality is a “procedural requirement”, under Article 57 API … to do what is feasible in the circumstances.” 1-9.
436 Dinstein above n7 20.
to think either of his own position as commander or that of his position in the overall battle-
plan of his platoon of tanks.
Launch (a) to (b) - the distance line; the distance between the launch point and the target (b).

Launch (a) to (c) - the speed line; how fast the weapon travels between the launch point and the target (b).

Background - this shaded area constitutes the presence of the principle of proportionality in the temporal matrix. This shading will change with each case study, illustrating how this proportionality is degraded by the differing speeds of the weapons used, until the diagram changes from a completely shaded fill to a nearly empty space.
Chapter Four: Proportionality in the Afghanistan war

In this final case study, the proportionality assessment moves from the densely crowded urban space of Fallujah to the wide expanses of mountains and plains which form the landscape of Afghanistan. An attack upon a civilian group by a drone-launched missile forms the subject matter of the case-study, with the principle of proportionality being assessed following the attack in the context of military “lessons learned” together with the forensic recording of both military and civilian casualties. Three key issues are carried forward from the previous chapter, those of precision, inter-operability of weaponry, and inter-operability of C&C systems.

In addition to the deployed fixed-wing aircraft and helicopters, unmanned aerial vehicles, UAVs or “drones” were increasingly used as an integral part of this network, both as attack aircraft and surveillance platforms. Reflecting the complexity of the war, “precision” became the keyword of missions, as Allied forces sought to reduce levels of personal injury and collateral damage to both civilians and own-side military. The weaponry used to prosecute this war over such vast distances was integrated into a network of information, surveillance and reconnaissance (ISR), providing commanders and planners with what became known as “persistent surveillance” to track down and target the enemy within this theatre of conflict.

As in the battle of Fallujah, air and ground forces worked as integrated units using information gathered from drones and other types of aircraft and disseminated by the Command and Control Centres. Working at the centre of operations, the Judge Advocate General’s (JAGs) lawyers worked twenty-four hour rota systems, supplying the military forces with both real-time information together with advice on aspects of the law of armed conflict relating to the mission in operation. In addition to the US Command and Control

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454 above n452 BS Lambeth 1-140.
System, that of another Allied partner Australia is considered in relation to the interoperability issue of such a large number of countries using possibly different equipment for the same aim of mission.

Assessing the principle within a reasonable time-frame presented the commanders and (JAG) lawyers with a choice. Operating as an attack weapon, the drone could leave very little or no time at all for assessment; however when operating in the loiter, “persistent surveillance” mode, it could give as much time as the planning team required to make their decision. In addition, the deployment of drones raises many questions of strategic policy and planning, including the erosion of national sovereignty and the further development of these technologies, together with the issues of legal control, are examined within the overall debate on the principle of proportionality.455

Finally, referring to the temporal triangle, the speed of the Hellfire missile travelling at 950 mph when launched from Predator drones, is represented by the highest level of the baseline. As a result the background environment is severely compressed, illustrating how the principle of proportionality is further constrained by the deployment of precision weapons. In taking such issues into account, the final section reaches the conclusion that in some cases, the commander may have only a few seconds, two or three at the most, in which to make a reasoned decision concerning the complex nature of the principle of proportionality.456

4.1 Precision weapons

Sine has described “precision” as ‘…a tactical capability providing measurable and quantifiable first-order effects and minimal unintended or undesirable effects.’457 This description can be linked to this chapter by asking the question of what was it that the strategy makers at the highest level needed to know; the answer being the location of high-value insurgents. Bearing in mind the vastness of the theatre of war, the location of a single individual or a small group was not a simple achievement from any height.

By the outbreak of this war, the development and deployment of precision weapons had produced the answer to problems such as this, in the form of the drone.458 This would provide information on a regular reliable basis, the “persistent surveillance” ideally suited for long and short range tracking and loitering, either of a long-term life-style watch of an

456 ‘They must often make difficult life-and-death decisions in an extremely compressed time frame and do so on imperfect information produced in the chaos of battle.’ Dunlap Jr above n7 128.
457 Sine above n4 1, 1.
458 A Rothstein Drone (Bloomsbury Academic London 2015).
individual for maybe days or months, or the high speed tracking of a fleeing vehicle in the
role of Close Air Support (CAS) for Allied troops on the ground.

Referring to aerial warfare, the destruction of a target by the first strike is strategically
highly desirable, eliminating the necessity of the pilot to return for another attack which runs
the increased risk of civilian injury and collateral damage. To this end alone, the
development and deployment of drones, with their on-board navigation and radar systems,
was seen as an advance in this direction. Further, due to the fact that Afghanistan is a vast
and remote land-locked country, a variety of weapons systems capable of providing a
uniform coverage were required.

The contribution of drones to this issue is significant, reflecting its range of
operational modes; the drone as an aircraft, a platform for launching weapons, and a camera
site for the collection of intelligence, the availability of the drone has changed the way in
which wars are fought. The information it garners informs the commander as to the location
of the enemy, stationary or on the move, alone or in company, on foot or using vehicles, this
data builds up a visual picture for the commander and the lawyer to disseminate and activate,
whether to order the remote operator to launch an attack, to await developments, or to do
nothing and move to another potential target.

Together with the drone, high-altitude aircraft for example the U-2 and a variety of
other types including helicopters and fighter aircraft, gather information for the US and the
Allies. This information contributes to Sine’s “tactical capability” approach where everyone
within the target area, receives orders based upon “precision” at every level. Precision, in the
form of real-time information underpinned the tactical advantages of the Allied forces,
evertheless, mistakes occurred, as is seen in the context of the Dam Gulek attack.

For as long as NATO exists, the literature is determining that three key factors
underpin its survival; precision, inter-operability of weaponry, and interoperability of C&C
systems.\textsuperscript{459} Since the end of WW2 and throughout the Cold War, the US fielded the largest
numbers of aircraft and munitions, a position it retains to the present day. This has meant
that during recent conflicts, where the US and its European Allies were operating jointly, the
majority of aircraft were of US origin, as was the majority of aircrews lost. This is noticeable
from the origins and types of the aircraft used in the case-studies.

In the 1980’s, with the shifting political climates across Europe, the design and
development of purely European aircraft\textsuperscript{460} signalled a new phase whereby Europe could

\textsuperscript{459} Lambeth above n452 1-140.
\textsuperscript{460} The RAF Typhoon and the French Rafael being the most noticeable.
become more self-sufficient in its defence role whilst remaining close Allies of the US. The Joint Strike Fighter (JSF) initiative, proposed by the US in 1996, ‘… appears to offer promise for enhancing interoperability through the use of a common system.’ However Lambeth notes that this is limited by the vastly different fiscal contributions each European member can make to the JSF, as many continue to contribute to the European fighter initiative. It is noted that in retrospect, the contribution of precision weapons by the Allies in Kosovo had only a limited effect due to the increasing shortage of the weapons themselves, this being due to exorbitant cost, there being no defects in either the weapons themselves or in the abilities of the pilots. By the time of the Afghan conflict, “precision” was the primary requirement of US and NATO weaponry, one of the drivers of this being the continuing concern over unacceptable levels of civilian injury and collateral damage which was given widespread and adverse coverage by the world media when these mistakes did occur.

Heinsch notes that ‘… at the moment we do not have specialised treaty law which regulates the use of the current new technologies such as cyber warfare, remote-controlled weapons, or autonomous lethal robots.’ The difficulty lies in finding a way forward for the control of such weapons when States are averse to considering the matter and there is negligible State Practice; following from this Heinsch considers one way may lie in an increased recognition and use of customary international law, which also has the modern advantage of being fairly rapid to initiate.

From the law attempting to control them, the following section illustrates the varieties of new weaponry deployed during the conflict in Afghanistan.

4.1.1 Weapons deployed in the Afghan war

The deployment of drones during the Gulf War, January 1991, heralded what one noted policy centre has described as ‘… the dawn of a new era in conventional warfare.’ In addition to the drones themselves, the tactical reforms for how these weapons are best deployed has resulted in multiple changes in policy, as in the case of the strategic guidance for “persistent surveillance” which provided the Allies with the continual overview required

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461 above n452 Lambeth Chapter Ten - Fighters and Weapons 124-5.
462 above n452 Lambeth Chapter Ten - Fighters and Weapons 124.
463 above n452 Lambeth Chapter Ten - Fighters and Weapons 128.
464 above n452 Heinsch 37.
to keep track of insurgent activity, where weapons were specifically selected to fulfil this requirement.

The most widely used of the drones, the US Predator together with the UK Reaper, together with the Apache helicopter and AC-10 gunship were deployed throughout the conflict. Again, the US constituted the largest proportion of the weaponry, the air forces providing “close air support” to ground troops and Afghan forces when required, being “called down” frequently at very short notice. \[466\]

At the same time, a vast arsenal of small arms and ammunition existed in Afghanistan. This fact is not unusual in such large naturally wild habitats of forests and mountains. The same is true in the US and Canada, where handguns are an accepted method of providing food and sport, in addition to self-protection, being used by everyone, men, women and older children. While these are not technically catalogued, ownership and use of these small arms by the general public was an additional cause of instability which could not be factored into a mission ROE with any certainty.

4.1.2 The Allies Command Structure

The NATO Headquarters were situated in the capital city Kabul, with the mission to “… provide security for the Afghan government and the civilian population and to defend against insurgent operations,” \[467\] the Command and Control hub for Afghanistan being located in US Combined Air Operations Centre in Qatar. (The attack on the Dam Gulek group occurred over a period of time when several commanders and planning teams had input into the final decision to launch the missile.)

There are specific rules guiding the effectiveness of combined operations. Rule 161 of the HPCR stipulates that ‘A State may not invoke its participation in combined operations as justification for its failure to perform its obligations under the law of international armed conflict’. \[468\] Whereas the Iraq example illustrated the problems potentially caused by differences between commanders and other ranks of different cultures, in Afghanistan, the example will use the differences between the legal regimes of the contributing States. The obligations of each State within such regimes do not change when a State becomes a member evolved over time.

\[466\] For one such incident see A Cockburn  *Kill Chain – Drones and the Rise of High-Tech Assassins* (Verso London 2015).

\[467\] HRW above n452 9.

\[468\] HPCR above n8 376.
Two of the more common are first, the use of “common Rules of Engagement”, where partners may accept more restrictive ROEs than usual in order to fall in line with other members; and second, the use of caveats, placed upon certain operational activities in order to keep support from political or public pressures of the home State. Due to the tensions such caveats can cause, there is common agreement that it is the responsibility of the partners involved in combined operations how to arrange the decision making process.469

The NATO command operated a counter-insurgency operation “Operation Enduring Freedom” supporting the government of Afghanistan, established by UN Security Council Resolution 1386.470 A second force, the International Security Assistance Force (ISAF) came into being on 20 December 2001 and was taken under NATO control 11 August 2003. The primary objective of ISAF was to provide effective security and counter-insurgency procedures, and to develop new Afghan security forces.471

Referring to the US Forces, throughout the prosecution of the war, there were a total of eleven rotations, changes in the leadership and their staffs. These changes affected all those … in the war, down through the members of the Task Force at division and corps levels, to the commanders fighting in the theatre itself. In search of a standard control procedure, they reflected evolving political and practical purposes, however the result was a loss of knowledge at theatre level leading to commanders having different visions of what must be done, a … commanders’ intent.472 This particular policy went against the traditional command system, where there was one supreme Commander-in-Chief in office from the beginning of the conflict, through to the final stages of the war which could be a period of years, as was the case with General Eisenhower, in charge of the whole European theatre during WW2.

This “unity of command” of different forces had been a central tenet in the US military since the end of WW1. In Afghanistan, the CFC-A passed control of ISAF ground fighting down to three distinct centres; CENTCOM (Commander of US Central Command); SACEUR (Commander of European Forces); and SOCOM (Commander US Combined Central Command). The aim of this structure being to reconcile service, coalition, functional

469 HPCR above n8 378.
470 UNSC Res 1386 (20 December 2001). The Afghanistan authorities welcomed the deployment to Afghanistan of a UN-authorized international security force.
471 International Security Assistance Force (ISAF) above n452. 
472 http://www.SmallWars
and geographical differences; but from a strategic perspective, no one was in charge of the overall mission.  

During the prosecution of the war, the command structure was re-organised on several occasions, responding to the shifting policies at the highest levels of policy making. From 2011, responsibility for security was passed to the Afghanistan forces, and the presence of NATO ground forces concluded at the end of 2014, with only the F-16s remaining.

At the height of the conflict, there were 180,000 military personnel and 51 partner nations involved in the ISAF force, which according to the size of their contribution, and each with their own command and control centres, this again being one reason for the difficulty of obtaining a single overall view of the theatre of operations.

The rugged terrain of Afghanistan demanded a high level of knowledge concerning navigation of roads and tracks, local knowledge of the area to be worked (The allies utilized a system called “Terrain Mapping” whereby information gathered through discussions with local tribal elders and other reliable sources could be generated into an up-to-date map of an immediate local area of interest,) and whether or not there were any local patterns of weather disturbances which could abort a strike at the last minute. The data obtained from the use of terrain mapping, updates from surveillance aircraft, all the information obtained as part of the dynamic network of information for the commander to use. This chapter describes a variety of military issues to which proportionality can be exposed, and despite the difficulties faced, the principle endures in that it continues to sustain the link between weaponry and humanity in dealing with civilian populations in wartime, and the pure necessity of achieving the military objective. The delicacy of this weighing operation, described in the previous conflict studies, has not changed throughout the past fifty years; however what has changed is the means and methods of military operations in the air, in the move from traditional weapons to the UAVs.

4.2 The case studies

4.2.1 the Dam Gulek attack

A drone-fired missile killed five members of a single extended family, four men and a boy, near Dam Gulek village in Nuristan province on 5 December 2012.476

4.2.1.a the reason the target was attacked.

No reason has ever been given by the authorities, either by the Allies or by the Afghan government, as to why the group was attacked. The Allied war-plan focussed on the removal of insurgent leaders, therefore the reason could have been a mistake in identity between as group of insurgents and a group of civilians, or insurgents and civilians travelling collectively. Noting the date of the Dam Gulek attack, 2012, the aim of the strategic policy makers had moved from waging outright war on the insurgents to that of isolating persons of value from among the insurgents. This group in particular was part of a family travelling to the home of a friend recently returned from a Pilgrimage to Mecca, taking with them a cow to contribute to the celebrations.

By this time, the Allied forces were taking increasingly strict precautions in the prevention of civilian harm. This took not only the form of sophisticated levels of information, but also other measures such as “patterns of life” assessments to ascertain certain potentially hostile gatherings or movements of the civilian population.477 For instance, as in agrarian community, there could be specific market days for the sale of farm animals, proving attractive to insurgents as a place of cover or potential harm to civilians. As in any mainly farming community, the Afghan population would accept travelling long distances over tracks, footpaths and narrow roads as part of everyday life.

In operating within this enormous space, the operational discrepancies between the Allied forces came to light as the conflict progressed. As one example of particular importance to airstrikes, being the phrase “hostile intent”. To the NATO Allied forces it meant “manifest and overwhelming” force, whereas to the US alone it meant “the threat of the imminent use of force.”478 Similar to the process of defining the meaning of the principle of proportionality, this is a subjective operation and bearing in mind that each participating country had its own ROE, it should not be surprising when conflicts of opinion arose, particularly in any forensic investigation following civilian deaths claimed to have been caused by an airstrike.

476 above n452 Amnesty International ‘Left in the dark: Failures of Accountability for Civilian Casualties Caused by International military operations in Afghanistan’. 3. Killings of civilians during… 18. the type of missile was not known or reported.
477 HRW “Troops in Contact” above n452 18.
478 HRW “Troops in Contact” above n452 18.
In addition, together with the issue of inter-mingling, both civilians and insurgents wore the same style of clothing, the traditional, which may have local variations. With few exceptions, for example those politicians who have exposure to other cultures through the media, and may wear “Western” style suits, there was little or no difference between the clothing of the rich and the poor. The standard dress for adult men being costumes in wool or cotton, depending upon the season, and the universal pato or blanket, worn folded over one shoulder, serving as a cloak, a sleeping rug and a prayer mat. According to the area of the country, either turbans or caps are worn on the head.\textsuperscript{479} Dinstein notes that although the insurgents were openly carrying their weapons, they wore the usual customary dress, not uniforms or any particular mark or badge. Arising from this, they could not claim Prisoner of War status under customary international law.\textsuperscript{480}

These similarities in dress make the distinction between the two, civilian and insurgent, extremely difficult if not impossible. Returning to the attack, the weather at 11am on the morning of the attack was sunny and clear.\textsuperscript{481} This being the case, there was no impediment through bad weather which could have affected the performance of the precision weapons deployed.

Being a land-locked country bounded by mountains which form part of the Himalayan chain, the winters are long and severe, with the high peaks causing severe and unpredictable changes in wind speed and direction, with snow storms capable of interfering with communications and the integrity of local radar systems. The country also lacked any comprehensive system of road or rail communications; in other States, where present, these structures provide useful tools of visual navigation and guidance.

Recent literature proposes that a lack of local knowledge poses a far greater threat to the success of counter-insurgency than was previously thought. Krupiy notes that “The use of technology frequently does not enable attackers to correctly interpret the context behind the events on the battlefield. This results in attackers having an incomplete understanding of what is happening on the battlefield.”\textsuperscript{482} Consequently, even with the deployment of precision weapons, failure to correctly isolate and identify the target, mistakes as in the Dam Gulek attack, will continue to be made.

4.2.1.b the weapons deployed in the air attack

\textsuperscript{480} Dinstein above n7 48.
\textsuperscript{481} Amnesty International ‘Left in the dark:..’ above n452 53.
A report published following the attack noted it had not been possible to identify the weapon which struck the family group, even from the remains of metal found at the site of the explosion. If there were no other military activities in the area at the time, would there be a strong assumption that the missile was launched by a drone. In fact, the Amnesty Report\textsuperscript{483} notes specifically that a drone had launched the weapon.

In attempts to limit personal injury and collateral damage, the Allied forces were using smaller munitions in bombs,\textsuperscript{484} one of the crucial points made by Sine in describing the acceptance of the “precision” concept by the armed forces.

Turning to the types of weapons used, not only in the attack itself but also in the Afghanistan conflict as a whole. It is noted that the weapons systems used in the Afghanistan conflict were heavily influenced by two interests, that of “precision”, and that of “persistent surveillance”; to this end, drones in their dual modes of surveillance and of attack vehicles were a clear choice.

However, a critical phase in the life-cycle of any military weapon is research and development where the original idea for a weapon is transferred to the drawing-board and thence to the test firing or test flights. Financial support for these stages may come largely from national governments, hence only weapons which will serve the “national interest” survive the course to actual use in battlefield conditions. In addition, their use must be legal in every sense, and the LOAC foresees some of the problems which may arise with the development of new weapons and takes steps to minimise these in advance. Thus, API Article 36 stipulates:

In the study, development, acquisition or adoption of a new weapon, means or methods of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited under the Protocol or by any other rule of international law applicable to the High Contracting Party.

Even if such precautionary measures are fulfilled, there is no guarantee that these weapons will not be misused, however the situation remains that the correct interpretation remains that the clause in API Article 36 applies to what would be the ‘… normal and expected use of new weapons.’\textsuperscript{485}

\textsuperscript{483} above n452 Amnesty International ‘Left in the dark…’ 53.
\textsuperscript{484} above n452 HRW ‘Troops in Contact’ 20.
\textsuperscript{485} Dinstein above n7 80; Lawand above n452 925, 928; Backstrom and Henderson above n8 483-514; Hays Parks ‘Conventional Weapons and Weapons Reviews’ 8 Yearbook of International Humanitarian Law (2005) 55-142.
As demonstrated in all three case-studies, the increase in new weaponry has been at an unprecedented rate. Efforts have been made to bring some conformity to this process, as with both the 28th International Conference in 2003 which called for an international which would establish specific procedures and control under international law.\textsuperscript{486} In a guide published in 2006, “Reviewing the legality of new weapons, means and methods of warfare”, the ICRC made two recommendations; first, that States should have a standing mechanism for an automatic review of new weapons, and second, that this be made mandatory by law or other directive.

In considering the principle of proportionality, the Guide makes an important point concerning the “conduct of hostilities” rules of the LOAC; ‘Although these rules are primarily intended to be applied at field level by military commanders on a case-by-case basis, they would nonetheless be relevant at the review stage of a new weapon insofar as the weapon’s design, characteristics and foreseeable effects enable the reviewing authority to determine whether or not the weapon’s end-user will be capable of employing it in conformity with them.’\textsuperscript{487} A further requirement is that the reviewing body is composed of experts from multi-disciplinary as well as multi-cultural backgrounds, thus ensuring a clear understandable synthesis of the opinions and recommendations expressed. However, even at this point, very few States have initiated procedures to address these points.

With the deployment of military drones, these issues become critical. It is recognized that a ‘A variety of never-before-anticipated, complex legal, ethical, and political issues have been created-issues in need of prompt attention and action.\textsuperscript{488} This, written in 2011, raises another point, that of “emergent behaviours”, behaviours not programmed but arising out of sheer complexity.\textsuperscript{489} This reflects the chaotic solution in Fallujah, but with the addition of far more programmed robotic war machines than were available at the time. Marchant notes that such emergent behaviours cannot be accounted for in advance, specifically during the programming stage before a mission.

With this in mind, consider a lethal military machine which is considered fit to fulfil its obligations as a new weapon under the LOAC, yet may still behave erratically towards civilians in a combat zone.

\textsuperscript{486} Lawand above n452 925, 926;
\textsuperscript{487} Lawand above n452 925, 928;
\textsuperscript{489} Marchant \textit{et al} above n 488 272, 284.
Listing first the aircraft, one very much to the fore in Afghanistan was the Apache helicopter.\footnote{The Apache helicopter: \url{http://www.boeing.com/defense/ah64/#/performance} accessed 24/11/2016.} The Apache has a service record beginning in 1984, with at present there are some 2,100 in service around the world, including the UK which on 11 July 2016 took delivery of 50 AH64E Apaches. Manufactured by Boeing, the Apache AH-64 has a maximum speed of 279 k feet per minute; a vertical rate of climb of 2,000 feet per minute, and a maximum rate of climb of 2,800 feet per minute. Powered by two high performance turboshaft engines, it carries a crew of two.

Its weaponry is composed of components which specifically support its role as a provider of real time battle management digital data of images and locations of targets to joint operations battlefield commanders. These are comprised of laser guided Hellfire missiles; 70mm rockets; 30mm automatic cannon and 200 high explosive dual purpose rocket rounds, in addition to longer range accessibility and night flying and fighting abilities.

Radar systems displays of both moving and static objects, can classify up to 128 targets per minute, with integrated sensors providing networking and digital communication for Apache pilots situational awareness particularly in heavy cloud and storm situations. Apache helicopters and drones are discovering a new working relationship, as Grossman reports: in the areas of information supporting target acquisition and strike capabilities. The UAV is an either manned or unmanned MUT-T vehicle, through which the Apache pilot can control the sensors for payload and flight path of US Army Shadow and Gray Eagle drones. This gives additional benefits as quicker reaction times when drones are engaged in mid-session corrections. The MUT-T vehicle has the ability to detect a target up to a distance of 50 to 60 miles.\footnote{D Grossman ‘Drones are giving Apaches a Second Pair of Eyes’ (8 June 2016). \url{http://www.popularmechanics.com/military-weapons/a21239/}} At the time of writing, the “Global Hawk”\footnote{MC Sirak ‘NATO’s New Eyes in the Sky’ (September 2013) Air Force Magazine 50-54.} drone has the capability to maintain 35 hours on watch at a height of 65,000 feet, almost double the operational height of commercial airliners.

Afghanistan witnessed the potential of drone warfare taken to its ultimate, and the choice was very much in favour of the Predator UAV,\footnote{See Chapter Two ‘Proportionality in the Kosovo War.’ p172.} an aircraft already tested in the Kosovo conflict.\footnote{Type: MQ-9 Predator UAV aircraft. Manufacturer; General Atomic Aeronautical Systems. Specifications; Speed - 120 Kph. Altitude - 25,000 feet. Endurance – 35 hours. Mission: ISR; Interdiction; close air support; force protection; combat search and}
rescue; remote operations video enhanced receivers operations. This aircraft flew in both
Iraq and Afghanistan. Has both line of sight and beyond line of sight capabilities. In 2001,
there were 10 “Predator” UAVs in service used mainly for surveillance. By 2001 these
numbers had risen to 180 plus with the vehicle itself able to fly for 24 hours at a height of
26,000 feet.

Recent developments have resulted in the new variant Predator B ER. The new
landing-gear extends endurance from 27 to 34 hours, further enhancing operational
flexibility as the aircraft can land in a wider range of conditions than on a specific runway.
With the wing span extended from 66 feet to 79 feet to contain the fuel previously held in
the fuel pods, this new configuration further extends endurance rate up to 42 hours. The
aircraft has been acquired by the US Air Force, the Royal Air Force, NASA, and the air
forces of France, Italy and Spain.

In addition to the Predator, the UK’s Reaper was widely used. Unmanned aerial
vehicle (UAV) Reaper. UK. A medium to long range endurance (MALE) reconnaissance
aircraft used in support of (ISR) and ground attack missions. With the pilot in command
mode, this gives kinetic support to Commander for attacking fleeting or static targets plus
other CAS options. It is powered by one engine, a Honeywell TPE 331-10T, with a cruising
speed of 250 kph at an altitude maximum of 50,000 feet. Operated by crews of professional
pilots, a sensor operator and Mission Intelligence Co-ordinators from Ground Control
Stations.

Command and Control; Activation of Reaper authorized by the Forward Air Control
officer (FAC, and at the higher level of (JTAC) Joint Tactical Air Command – observing
target on the ground, or from Land Forces Headquarters. Joined the Royal Air Force in
Afghanistan in 2011.  

At the other extreme is the tiny Wasp, lightweight, low altitude robust vehicle
developed jointly by AVINC and DARPA. Has line-of-sight video and data-link capabilities
for military use in urban or mountain terrains. Hand-launched and waterproof, can be
launched from either land or water. With an altitude ceiling of 10,000 feet, it can transmit
high resolution colour or infra-red information to both ground-control units and remote
viewing units. An electronic front-end motor delivers a speed of between 40 to 60 kmh. On
board equipment includes two cameras, and navigation information using all-weather GPS
facilities.

Is there any evidence that weapons are becoming more precise with the advent of advanced technology. Returning to Sine’s definition, as a “technical capability” all contributing to the overall picture, ‘The aerial forces relied on intelligence from Predator drones equipped with Hellfire anti-tank missiles, which instantaneously relayed battlefield video to AC-130 gunships, Global Hawk unmanned reconnaissance surveillance drones, …’ Considering their deployment, the trend towards the use of drones is significant. ‘In 2013, UNAMA documented 19 incidents involving airstrikes from drones that resulted in 45 civilian deaths, a substantial increase over the figures from 2012’.

An important point to note is that the deployment of precision weapons does not eliminate the effect of bad weather, nor the targeting difficulties in such rugged terrain. Strong gusting winds may blow a missile miles off track, when even missing the target by a few feet may leave the target unscathed.

The American strikes in Afghanistan was unprecedented in the amount and quality of advanced weaponry deployed. By 2010, the US Airforce was flying at least 20 Predator drones a day, these being used mainly for surveillance and to give protection to American ground forces. Where lethal strikes were required, both bombs and missiles were used, however these were chosen with the strategic aim of reducing collateral damage. In a further effort to reduce civilian damage, the then commander of the American troops General McChrystal ‘… has tightened the rules for airstrikes, especially by military jets, which usually drop larger bombs than the drones and have less time to follow the targets.’

One expert proposes there are three points associated with this new strike power; mobility, the lethal effect of the weaponry, and the survivability of the delivering aircraft makes airpower the system of choice when determining the operational requirements of regional conflicts such as Afghanistan. There have been indications that feed-back from military “lessons learned” is beginning to affecting policy at the highest levels of strategic planning. The literature criticises the claims of the potential accuracy of drones when ‘…it

497 Sine above n4 ‘…a tactical capability providing measurable and quantifiable first-order effects and minimal unintended or undesirable effects.’ 1, 1.
498 A widely used missile in this situation was the AGM-114 Hellfire missile. Constructed by Lockheed Martin, it was designed originally for operations against tanks, structures and bunkers, however later versions enabled their use against human targets, either stationery or on the move. It can be launched from rotary or fixed-wing aircraft and UAVs, and be guided remotely from either inside the launching aircraft/ UAV or by lasers from external sources.
499 Lippman above n148 1, 56.
500 Amnesty International above n452 19.
502 C Drew ‘Drones are playing a Growing Role in Afghanistan’ (February 20th 2010) New York Times 1, 1.
503 Hallion above n174 1, 11.
is possible to greatly minimize civilian casualties if the policy governing their use restricts the targets against which they are employed.\textsuperscript{504} This has led to the US military ‘… now adhering to a sophisticated set of collateral damage methodology protocols in order to determine whether a particular action satisfies the requirements of proportionality in most situations’\textsuperscript{505}

4.2.1.c the proportionality assessment

The principle of proportionality was defined very clearly by Judge Higgin’s Dissenting Opinion in Nuclear Weapons;

The principle of proportionality, even if finding no specific mention, is reflected in many provisions of Additional Protocol I to the Geneva Conventions of 1949. Thus even a legitimate target may not be attacked if the collateral civilian casualties would be disproportionate to the specific military gain from the attack.\textsuperscript{506}

As a model for civilian protection, proportionality does not operate in isolation but rather interacts with other principles and rules (e.g. – distinction and command responsibility) to fulfil this rationale. Whilst it may appear at first glance that the principle of proportionality is burdensome and unworkable, it has developed over the course of time into a practicable system of civilian protection in tandem with military necessity.\textsuperscript{507}

What is striking is the emergence of proportionality from a ‘state of neglect’ in 1993\textsuperscript{508} to a position of concern to both experts and the general public alike at the present time. This study considers that, with emphasis now on assessment on a case-by-case basis, the hundreds, if not thousands of individual strikes in the Afghan conflict bring to light the fact that proportionality is far from being defunct, is continuing to demand decisions at most if not all levels of command responsibility. Barnidge notes that during the action of modern warfare, the responsibility for the assessment falls upon the shoulders of the military commander in two stages, during the assessment stage of his decision-making process; where API Article (57) (2) (a) (iii) - the authorization stage – the decision to launch the attack is being made, and possibly later, under API Article (57) (2) (b) when the attack is underway, when there is a clear risk of excessive collateral damage. Barnidge proposes that and the

\textsuperscript{504} M Braun and DR Brunstetter ‘Rethinking the Criterion for Assessing CiA-targeted Killings: Drones, Proportionality and Jus Ad Vim’ (2014) 12:4 Journal of Military Ethics 304, 311.
\textsuperscript{505} Braun and Brunstetter above n504 304, 310.
\textsuperscript{506} Advisory Opinion on Nuclear Weapons 587; Harris D Cases and Materials under International Law (7th ed Sweet & Maxwell London 2010) 687.
\textsuperscript{507} Fleck ed above n8 34; Dinstein above n7 52; Solf above n12 1:117; Reynolds above n12 1-83; Rogers above n8 21.
\textsuperscript{508} Gardam above n1 391, 400.
legal test for a “disproportionate” attack are those only where casualties from that attack are assessed as being excessive.\textsuperscript{509}

Placing responsibility on the commander makes sense when viewed against the speed of modern warfare, he is the one at the scene of the action and processing the authority for the final strike. In addition, he will be required to contribute to the after-flight briefings. Assessing the principle of proportionality following an air strike is important as it presents an opportunity to evaluate the action from the initial targeting decision to the final outcome. As with the Dam Gulek strike however, such evaluations are not always forthcoming, for various reasons, in this case the relatives of the victims did not know where to find the required source for assistance within the local area. From the military point of view, the forensic details provide material for “lessons learned”, of what to avoid or what to carry forward to benefit strategic planning in the future.

Heinsch comments upon proportionality as being too general to deal with newly developed weapons.\textsuperscript{510} However, it remains the fact that it is in the interpretation of proportionality that the problems arise. Claims of vagueness and ambiguity do not sit well with the programming of precision weapons, and with the widespread and increasing use of these, the principle is beginning to receive the attention it is due.

By the beginning of the Afghan war, the amounts of information reaching the commanders and the planning teams managing these weapons had reached saturation levels; hence applying the law to the filtered information requires great skill of the lawyers who, working alongside the commanders assist in translating this into military terms for combat orders.\textsuperscript{511} The US government moved to make its position clear: US State Practice, at 18.5.1., Legal Advisors: The US has provided for legal advisors to advise military commanders on the law of war. For example, DOD policy has required that each head of a DOD component make quality legal advice available at all levels of command to provide advice about law of war compliance during planning and execution of exercises and operations.\textsuperscript{512}

\textsuperscript{510} Heinsch above n172 18.
\textsuperscript{511} Gent above n405 1, 20; also Gent above n405 1-17.
In the investigation following a strike, and even though collateral damage methodology protocols may be in place, each strike is considered on its own merits, as each will have individual issues such as the need for a second run at the target by the pilot of a manned aircraft, particularly dangerous regarding the risk of excessive collateral damage. Wright feels that it (the principle) is ambiguous in meaning and application and, ‘…there is no overarching definition of “excessive” because the variables in the proportionality standard are relative to each other. Commanders must consider each attack on a case-by-case basis, there can be no bright line rule’. 516 (The primary purpose of the “case-by-case basis” is however part of the attempted protection of commanders from legal consequences should criminal charges arise following an armed attack.)

Further, there is no requirement upon the commander to order the use of precision weapons. It falls within his margin of discretion to select the weapons he feels will best accomplish the task with the minimum of cost, both human and economic. There is a link here with the Dam Gulek strike: the use of a Hellfire missile to contain an individual subject appears extreme, but such criticism should be tempered by factors such as superior orders from the highest level, which may include political aims, the specific details of which may be withheld from personnel lower than strategic level. The complexity of an Allied command, where each country further claimed its own chain of command. The Australian chain of command exposes significant similarities and issues between it and the structure of the US. A short history explains how, following the 9/11 attacks, on 14 September 2001, by invoking Article Four of the ANZUS Treaty521, Australia announced the formation of Air Force assets to be made available for service in Afghanistan, under Operation Slipper.

‘Command arrangements for Australian Defence Forces (ADF) in Afghanistan complex and opaque, and involve multiple regional and national elements, changing over time.’522 As of August 2010, operations in Afghanistan involved three or four command elements in the region; a National Headquarters, Joint Task Force 633 Afghanistan, at Base Command Tarin Kowa. This base was subordinate to a wider Australian general command structure – Air Defence Force Primary Regional Command – ANHQ (MEAQ) mid-east area operations at Al Minhad Air Base in the United Arab Republic in late 2008. The overall

513 The ANZUS Security Treaty between the United States, Australia and New Zealand. Signed 1st September 1951. Recognized that Australia and New Zealand have military obligations outside of as well as within the Pacific area. http://www.avalon.law.yale.edu/20th_century/usmu002.asp
514 Australian Defence Forces (ADF) in Afghanistan http://www.nautilus.org/publication/books/australian-forcesabroad/af
Australian Defence Forces (ADF) for Afghanistan, was based in the capital, Kabul, National Command E1.- Task Force 633 liaises with ISAF regional command South in Kandahar.  

Actual details of the duties of the Command and Control crews belonging to all of the Allied Forces will include the core tasks of the overall radar surveillance of the aerospace for detection and identification of traffic; controlling and plotting the movements of such traffic with particular attention to any missile warnings; the staffing of aircraft filter centers and intercept control centers; submitting Close Air Support (CAS) and tactical air reconnaissance reports; and in emergency situations, assisting forward air controllers in tactical air mission planning and operations.

4.2.1.d the temporal triangle

In this diagram the base-line is at its highest point, indicating the high speed (950mph) of the chosen weaponry, the Hellfire missile. The thesis question argued whether or not the principle of proportionality was being constrained by the deployment of precision weapons, and the three case studies have demonstrated that this is true, and is occurring at an increasing rate.

In the Kosovo conflict, the weapons chosen to demonstrate this fact were selected as relatively “low and slow” to provide the material for the lowest level of the base-line. Compared with the battle of Fallujah, some five years later, the pace of the whole operation was considerably less frenetic, with only the sporadic outbreaks of violence as seen in the Djakovice convoy incident to warrant the later claims of indiscriminate attacks. A later surge in the availability of both precision weaponry and precision in navigation led to a greatly reduced time being available to commanders for reasoned decision making, this being shown in the central position of the base-line of the battle of Fallujah, while this acceleration was even more noticeable in the present case of Afghanistan, where in some cases there was no available decision time at all.

The vehicle chosen here to demonstrate the base-line was not an aircraft but a missile. Nevertheless it is still a precision weapon, and with the progression of weapons into “weapons systems” it is difficult if not impossible to predict where this morphing of otherwise discreet technologies will lead. The compression of the proportionality environment into this remaining small space gives a clear visual picture of what confronts a

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515 Australian Defence Forces (ADF) in Afghanistan. above n 510.
516 Australian Defence Forces (ADF) in Afghanistan.
commander when facing a split-second decision. Is it reasoned, intuitive, a good (or bad) guess, or a simple judgement call, because there was nothing else he could do.

Some assistance to commanders may be given by technologies such as DARPA’s “Deep Learning” programme, but until such opportunities are commonplace, then operational mistakes will continue to be made because, for the commanders and pilots, there must be a limit to what any human being can cognitively control. Adams notes that ‘More and more aspects of warfighting are not only leaving the realm of human senses, but also crossing outside the limit of human reaction times...in short, the military systems (including weapons) now on the horizon will be too fast, too small, too numerous, and will create an environment too complex for humans to direct’. 517

4.2.1.d The temporal triangle

The temporal triangle encompasses and absorbs all aspects of the principle of proportionality. A “central core” of proportionality has developed which, with the categorization of clear thresholds 518 delivers stability to the norm, particularly in times of uncertainty, as in the war in Syria. Despite this claim however, the literature does not reflect such clarity in military action. There remains no simple definition of the principle 519 although it emerges from the case-studies that the confusion arises more from the human interpretation than from the principle itself.

Such recent patterns have not however displaced the certainties of existing military texts, and proportionality continues in co-existence with other humanitarian norms in protecting the civilian. 520 The contemporary use of chemical weapons, with little or no care for the safety of civilians opens a challenging chapter in the LOAC. Should such actions, by either State or non-State actors be categorized as war crimes, 521 this would contribute in part to the issue of lack of enforcement in international law, 522 this in itself a problem enmeshed in the background of the temporal triangle.

The issue of information overload provides a good illustration of how the temporal triangle links the textual requirements of API to the ever decreasing amount of time available to the C&C commander to evaluate data and construct a real-time ROE for pilots and ground

518 Newton and May n7 283-299.
519 n10 API Article 51.5(b); API Article 57.2(b).
520 n11 Rogers 21.
521 n57 Elements of Crimes of the Rome Statute.
522 n58 Pace and Schense 106.
commanders. The background of the temporal triangle is capable of absorbing the “new wars and new laws” gamut of information as situations arise and evolve, as in Syria, where the military actors could be solitary soldiers on the ground each requiring different “micro” amounts of intelligence at the same time in the same situation. 523

All these facts are embedded in the background of the temporal triangle, representing the reality in which the principle of proportionality holds the capacity for continuing to protect the civilian in battlefield situations. 524

The existence of customary international law is embedded in all of these issues and questions. In an age of high-speed engagement and instant decision making, it remains to be seen whether or not opinio juris can retain its importance, while State Practice, being a reflection of political power, remains part of the structure of the change and uncertainty of the contemporary global scene. 525

In viewing the temporal triangle, first as in the diagram of section of chapter 4 (Afghanistan), and then as the completed whole, with all the relevant information in place, it is proposed that the Syrian conflict and the possession of chemical weapons by unregulated groups poses the greatest practical threat to the application of the principle of proportionality at the present time.

4.4 CONCLUSIONS

The issue of time is inherent in all the stages of this chapter, not only in the last minutes prior to the attack on the group. The lingering presence of drones in the skies above Afghanistan being witnesses of the US strategic policy of identifying persons of interest, were all part of the network of surveillance and as such, subject to the temporal requirements of commanders and the teams of lawyers and remote operators which controlled them.

The thesis question asks whether or not the principle of proportionality is being constrained by the deployment of precision weapons. However, this needs to be qualified by the reality of “proportionality”, determined in the last few minutes of the strike by the ROE, and in the geographical and political location of the conflict. Proportionality is totally contextual, being affected by every aspect of its surroundings, and this, together with the ongoing debates as to its meaning, makes its assessment doubly problematic. Referring to the temporal triangle, all such items of information are further compressed into the

524 See The complete temporal triangle p... of thesis.
525 See n70 The Study Vol II: Practice Part I above n14.
526 ‘They are always there, you can hear them.’ Witness at site of strike, above n1 Amnesty International ‘Left in the dark…., 53.
527 Newton and May above n 7.
background space as the speed bar moves upwards towards the highest level, increasing the risk of a mistake being made at the last moment of a strike.

A further ongoing issue inherent in the doctrine of proportionality is that of semantic vagueness and ambiguity, which leads the narrative back to the basic question of what the principle really means. ‘Terminological imprecision taken to its logical end, marginalizes the precepts of international humanitarian law and therefore creates strong disincentives to its application and enforcement’. 528 While accepting such incoherency in the texts, are nation states now accepting this in the face of new war theory as it gives them more choices of action. 529

The literature continues to analyse this “meaning”, with a range of views across the spectrum, 530 with the result for any commander being that he is not dealing with a clear cut rule but with a purely subjective issue which in itself takes possibly even more time to cogitate when in fact there is no time available for such additional permutations. At base, proportionality is an ethical issue, and the transfer of proportionality to a non-ethical military rule card for soldiers and pilots to use in attacking a target is not one which as yet, met with universal satisfaction.

The Oxford Group express it thus; ‘Neither practitioners, lawyers nor philosophers have a clear understanding of the required degree of nexus between harm done to civilians and a military action for the former to count as collateral damage. This is due in part to the conceptual still less predicting, the interacting causal factors that determine military effect and political advantage’. 531

In arguing the nexus between proportionality and the issue of time, in assessing these in relation to the deployment of Predator drones, the commanders and the lawyers have two paths to follow when preparing the remote controller to effect a strike; they have either plenty of time, or no time at all for a proportionality assessment. For example, in a situation identical to the Dam Gulek attack they may have both, at different stages of the strike.

528 Heinsch above n70 36.
529 Newton and May above n 7 517.
530 Newton and May above n 7; JD Wright; above n 13 Wright feels that it (the principle) is ambiguous in meaning and application and, there is no overarching definition of “excessive” because the variables in the proportionality standard are relative to each other. Commanders must consider each attack on a case-by-case basis, there can be no bright line rule’; In relation to the new wars and the new military policies required to meet the changes, Braun and Brunsetter above n486 note that ‘If drones’ capacity for proportionality is to be fully actualized, this will require synthesising disparate proportionality standards to for a coherent policy.’ 304, 310; R Heinsch above n70 39; J Dill above n 304 1-6.
During the “persistent surveillance” phase of the drone, the assessment period for the commander, when the movements of the individual are being constantly watched, sometimes for days or even weeks, there would be time for collation and cross-referencing of facts, both old and new, to build up a picture of habitual movements. When the time was ripe for an attack, there would not be time, in the last few seconds to change plans in reaction to the sudden appearance of civilians, as once a precision weapon (the Hellfire missile) is launched, its speed and track to target cannot be changed. Vogel notes that there is almost a total inability to “call back” drones once the mission is underway.  

A further advantage of the deployment of drones is the protection of the attacking force. In their surveillance mode, the cameras and radar trackers provide the soldiers and pilots with real-time information concerning, giving information which may allow escape from a planned ambush for example, or the suspicious behaviour of groups near a village. This makes practical sense, for survival means the possibility of later attacks, an advantage to a commander. The US Naval Handbook (2007) states that “Military advantage may involve a variety of considerations, including the security of the attacking force.”

The principle of proportionality forms part of the information network within which the commanders operate, however ‘Proportionality assessments are made on the basis of imperfect information and often with too much stress and too little time from the perspective of the decision maker.’ Drones provide extraordinary levels of intelligence to the military through their technical abilities, but they do not operate without legal boundaries; Boothby notes that the operators of drones, even though located thousands of miles distant in the US, remain subject to the same laws of war as are the pilots and operators situated in the actual battle zone, for example, in Afghanistan.

In such cases, how far can command responsibility reach, both geographically and legally. Some authors claim that there is sufficient law to control the use of drones, while others consider there is no law at all. Interlaced with this is the issue of new weaponry, even the language used to describe this area of weaponry is proving ambiguous and contentious and caution is required when moving between weaponry and technology. Hensel notes that ‘International norms are generalized standards of conduct that delineate the scope of a state’s

534 Newton and May above n7
535 Boothby above n153 ‘Some legal challenges posed by remote attack’ 579, 594.
entitlements, the extent of its obligations and the range of its jurisdiction by prescribing certain actions but proscribing others.’ 536 Within or without such standards of conduct however, it is true that the conflict in Afghanistan, through the use of precision weaponry, produced the lowest level of civilian casualties in relation to the number of target strikes in the records of modern warfare. 537

As noted, one of the most recent, and most publicised, technological development in the field of armed conflict is the “drone”, and it is this move into the area of long-distance control which poses the greatest challenge to the principle of proportionality. However, the development of such weapons as drones have highlighted the fact that there is at present (2013) little or no law available for regulating their use.

Among those who claim there is sufficient law are Boothby, who concludes ‘… that the established framework… should be capable of being applied,’ 538 whereas Dinstein avers that there are ‘… hosts of ambiguities embedded in the law as it stands.’ 539 From a different viewpoint are those who consider that the emergence of “new wars” could lead to a completely new concept of the law of armed conflict. Lamp suggests a “paradigm of compliance” a possible joining of the jus ad bellum and the jus in bello; however he also thinks that jus in bello proportionality cannot work where the war itself is illegal. 540 This range of views reflects the subjective nature of the LOAC and the proportionality principle.

‘It is proposed that ‘jus in bello proportionality is unique in its context, and a simplistic shift to make it operate precisely parallel to other usages would largely destroy its utility in the context of armed conflicts.’ 541 This study agrees that this is why the concept of proportionality is a principle and not a rule or imperative; it’s very “vagueness” allows for movements across different real-life situations in differing cultural backgrounds where even the respective militaries have their own military languages.

This being so, are the existing rules capable of controlling weapons of kinetic effect only. As it stands, existing LOAC is applicable to computer network attack, but its authors do not consider it substantial enough to provide guidelines for policy. Referring to the principle of proportionality, as part of the pre-attack planning, such issues as the question of

536 Hensel ed above n172.
537 Dunlap Jr above n7 ‘Clever or Clueless? Observations about Bombing Norm Debates’ 114.
538 Boothby above n153 ‘Some legal challenges posed by remote attack’ 579 - 595.
539 Dinstein above n7 256.
541 Newton and May above n7 156.
excessive collateral damage, is there a threshold to this limit, and would there be different methods of fulfilling the mission. 542

Addressing contemporary precision weapons, ‘It is fair and accurate to assert that today’s aerial munitions (if not ground launched ones) are relatively much more precise on average than those used by US forces 20 years ago. However, this statement is a comparative one, quite different in its implication that the absolute designation of current US military operations as “precision warfare.” 543

In the age of the new wars, the effective use of such technologies will require rapid, effective, and close interaction between many different systems. and instead the human role will take other forms, strategic direction perhaps, or to go to the other extreme, whether or not to enter hostilities at all.544 In addition, it is not only the weapons themselves which are becoming faster, but also speed of change is affecting the whole system of military weapons. However, the humanitarian conventions and principles in place at the present time were part of a by-gone age, and in view of the advent of the “new wars” there are commentators who call for new sets of rules which may be required for governance of the LOAC.545 An issue which arises in the Afghan campaign is noted by Schindler; when it comes to contemporary conflicts, these are ‘… fought by private groups that lack a clear command structure, that are not trained in the conduct of hostilities and that are not familiar with the principles and rules of international humanitarian law.’ 546 Another factor may be the size of the fighting unit involved. ‘… a small unit may not have a wide choice of methods and means of combat at its disposal and, moreover, may be limited in more than one way.’ 547

However, for proportionality the future may not be so bright in any case, whether or not it can be roboticised. Dill proposes it is largely ineffective and vague, and offers three reasons for its failures; first, it fails to sufficiently guide a well-intentioned combatant in his actions in the field; second, it fails to adequately protect civilians, and third, it fails to provide a standard for unbiased assessment of the conduct of hostilities.548 She further urges that a feasible, workable approach based on the concept of necessity is urgently needed.

544 Adams above n 146 12.
547 Kalshoven and Zegveld above n8 115.
548 Dill above n305 1-7.
This study comments that the reason for the second failure is the failure of the other two, and of these, failure three may prove to be the most intractable. Every commander and JAG lawyer will be subjectively biased even though it is buried in his sub-conscious, Unless, as Dill suggests, a solid external textual standard is decided, bias will remain in one of the areas in most need of unbiased decision-making, the law of armed conflict.

Wright feels that it (the principle) is ambiguous in meaning and application and, ‘to answer the question posed at the outset: there is no overarching definition of “excessive” because the variables in the proportionality standard are relative to each other.’

Nevertheless, the semantic flexibility of the jus in bello proportionality can be a benefit in times of hostile activity. Flexibility permits the military commanders the discretion to make choices and to take the risks necessary at the precise moment of military impact, without which he and the planning team could be denied the opportunity of pursuing the military advantage required. This disparate range of views is not surprising given that, as Heinsch postulates, ‘… it is too early to determine whether the available new military technologies have influenced the creation or adaptation of established rules of customary IHL.’

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549 Wright above n78 819, 853.
550 Heinsch above n172 39.
Launch (a) to (b) - the distance line; the distance between the launch point and the target (b).

Launch (a) to (c) - the speed line; how fast the weapon travels between the launch point and the target (b).

Background - this shaded area constitutes the presence of the principle of proportionality in the temporal matrix. This shading will change with each case study, illustrating how this proportionality is degraded by the differing speeds of the weapons used, until the diagram changes from a completely shaded fill to a nearly empty space.
Chapter Five - Conclusions

Evidence exists to support the claim that the compression of time through the use of high-speed precision weapons inhibits the effective implementation of the principle of proportionality represents the core of the thesis question, as illustrated in the following texts. Drawn from the three case studies, this evidence provides the proof that proportionality remains a fundamental principle within the Western system of IHL, which in modern practice, demands a balance between the use of force and excessive amounts of civilian harm. However, recent unforeseen events in Syria, Yemen and Iraq illustrate how, in those circumstances, the principle could be incapacitated or destroyed in both theory and practice.

Scholarly debate continues as to its customary status, with one commentator remarking that customary law is not typically understood as including definitions, being vague and ambiguous. This paucity of specific definition was one reason for the evolution of the 1977 Protocols, with the continuing customary status of the existing IHL being eventually codified in Article 51(5)(b) – the proportionality of means, and in Article 57(2)(b) - the proportionality of methods. Custom also retains its importance in situations where non-complying States are involved, an area at the cross-roads of law and politics, and where the Asylum, Continental Shelf, and the Nuclear Weapons cases retain their importance in modern international decision making.

Addressing the problem of non-compliance, not all States subscribe to the proportionality principle. Major world States, including the US and Russia express their position of non-compliance either in totality of through the use of reservations. It was commonly held that existing treaty norms were failing to provide the guidance needed by commanders due to the increasing complexity of modern warfare, together with the claim that they hindered a State’s ability to engage in combat on its own terms. The role of the ‘persistent objector’ remains part of the creation of customary international law, forcing debate upon areas of uncertainty in the specific case.

These three subjects, the application of non-complying States to API, principle of proportionality, and customary international law endow the subject matter of the following

551 above n8 Newton & May.
552 above n8 Wilmshurst and Breau.
553 above n71 Asylum; n72 Continental Shelf; n73 Nuclear Weapons cases.
554 above n113 Position statement by US.
texts within the boundaries of the thesis question. Additionally, the impact and potential of the temporal triangle is summarized in the final section.

5.1 Application of the principle of proportionality in non-complying States to API

The concept of “specially affected” States was set out by the ICJ in the *Continental Shelf*\(^{555}\) where it stressed that practice must include that of such States and has been interpreted to mean that no customary rule can develop if these States do not accept the practice. The scholarship agrees that there is a core of proportionality which has existed for as long as the principle itself, which gives stability to the elusive idea of the phenomenon of LOAC proportionality through the use of clear thresholds. There are five thresholds but only one is relevant for this thesis, the first, for war or armed conflict.

A gradual move by international lawyers towards codifying proportionality was furthered by the controversies concerning US actions, as an example, the use of napalm and other ‘scorched earth’ tactics in the Vietnam War. It was commonly held that existing treaty norms were failing to provide the guidance needed by commanders, however, the American military review concluded that even if the provisions of Protocol I had been in effect during the Vietnam War, for tactical, ideological and technical reasons they would have been of no value. In 1972, in response to a letter from Senator Edward Kennedy, the General Counsel’s memorandum had laid out the US military position on collateral damage and distinction, nonetheless, with a warning against attempts to limit the effects of attacks in an unreasonable manner. This fuelled opposition to the ratification of API from within the US military and its lawyers, an opposition which remains in place to the present day.

Despite the acceptance of proportionality as a customary rule applicable to international armed conflicts, there is the possibility of non-parties to AP1 claiming the status of ‘persistent objector’. The role of the ‘persistent objector’ is part of the creation of customary international law, forcing debate upon areas of uncertainty in the specific case. One commentator proposes that ‘… the most favourable argument from the objecting States point of view would be that because they are “specially affected” States, the rule has not become customary law.

There are two attitudes non-ratifying States can take; either, as is the case with the USA, the customary rule is not the text of API Art 51 or, the customary rule is the text of API Art 51, but the non-parties may be persistent objectors to it. Opposition to API, specifically the principle of proportionality as laid down in API Art 51(5)(b) was most

\(^{555}\) above n72 *Continental Shelf*;
publicly articulated by the US, their view being that it would hamper their inherent right of self-defence. The importance of this claim lies in the fact that, as one of the most powerful members of the P5, legal positions taken by the USA and other members influence the continuing development of customary international law.

This is a complex area, demanding precise evidence of practice, however the bench of an international court is constituted by judges from all areas of the world, each possessing their own cultural views as to what forms customary law may take in both theory and practice. Even so, there is a need to simplify this area, with this new need being the reduction of State practice (the objective element), and increased reliance upon opinio juris (the subjective element), thus distorting the historical balance between the two elements. As one expert proposes, customary international humanitarian law in general is experiencing a tendency to let the lex ferenda conflate the lex lata, and attempts by certain States to object to the development of new rules have been met with resistance. Should there be the possibility of non-parties to API claiming the status of ‘persistent objector’ the burden of proof would be on the objector to show that it is an objector and that the burden has been held by the ICJ to be a high one.

A further element stimulating debate is that of the duration of time; how long has a particular custom been recognized as such by those who are influenced by it. A fine example being the North Sea Fisheries Case where opinion was divided between three aspects, short duration; long duration, and instant customary law. The latter “instant” custom evolved through the necessity of constructing laws specific to the rapidly unfolding US Space Programme of the early 1960s and there were insufficient objections from the United Nations to prevent its subsequent adoption, with one expert being of the opinion that there is no reason why rules of customary international law cannot arise instantaneously in reaction to novel circumstances.

One commentator opines that the required duration of usage depends on the facts of each specific case. “Those who are influenced by it” being, in this case North Sea Fisheries Case, the fishermen who drew their living from the waters involved in the dispute. The repetition of these actions over generations, where fishing provided the backbone of the national income, formed yet another aspect of the customary matrix.

A key question is whether Rule 14 of the Study applies to those States that have not ratified API, particularly the permanent five members of the UN Security Council (‘the P5’) as the most important States for the purposes of new weaponry due to their advanced militaries and high GDP spending on military research and development.
Referring to the P5, France had, upon ratification of API stated that the Government of the French Republic considers the first sentence of paragraph 2 of [Article 52] prohibits only such attacks as may be directed against non-military objects. Such a sentence does not deal with the question of collateral damage caused by attacks directed against military objects. The United Kingdom of Great Britain and Northern Ireland made the following Declaration; …that Article 51(5)(b) was a “useful codification of a concept that as rapidly becoming accepted by all States as an important principle of international law relating to armed conflict.”

Iraq’s Law of the Supreme Criminal Tribunal (2005) identifies the following as a serious violation of the laws and customs of war applicable in international armed conflicts: the intentional launching of an attack in the knowledge that such attack will cause incidental loss of life or injury to civilians or civilian damage which would be clearly excessive in relation to the concrete and direct overall military advantages to be gained. Also - Article 58(a) API states that the Parties to the conflict shall, to the maximum extent feasible, without prejudice to Article 49 of the Fourth Convention, endeavour to remove the civilian population, individual civilians and civilian objects under their control from the vicinity of military objectives.

Neither China, the Russian Federation or the United States entered a reservation or declaration. In addition, the USA also questioned the rigour of the Study: for many rules proffered as rising to the level of customary international law, the State practice cited is insufficiently dense to meet “the extensive virtually uniform” standards generally required to demonstrate the existence of a customary rule.

The ability of the principle to be utilized despite the rapidly increasing speed of precision weapons is currently challenged in Syria, with weapons in hands of non-state actors operating in loosely organised groups or individuals with little or no centre of gravity and ROE as understood by Western military strategy. Such apparently ad hoc attacks in the Yemen and Iraq originate from groups organising around existing parties with varying political and ideological beliefs. These may have their own concepts of proportionality, for example, the means to an end concept, as adopted by Russia. Proportionality is an ancient concept, historically arising from the medieval idea of constant care, and evidenced in many instances where women and children were spared the killings carried out upon the civilian

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556 United Kingdom ‘Statement at the Diplomatic Conference leading to the adoption of the Additional Protocols (ibid § 114).
men. The evolution of International Criminal Court may assist ameliorate some atrocities, however, requires permission of sheltering State to locate suspects which in many cases creates an unsurmountable barrier.

Referring to other aspects of State practice, only the USA is not party to API, with the US Naval Handbook 2007 codifying the principle of proportionality in the exact terms of the API test, thus the principle of proportionality requires the commander to conduct a balancing test to determine if incidental injury, including death to civilians and damage to civilian objects, is excessive in relation to the concrete and direct military advantage expected to be gained. Despite not being a signatory to API, the US is one of only a few States to have adopted formal review processes.

It is arguable that the USA and other non-parties have discharged this burden through their continuing opposition to API Article 51(5)(b). One sign of such constant opposition would be the following; on the 6th May 2002, the US Government sent the following communication to the Secretary-General of the United Nations; ‘This is to inform you, in connection with the Rome Statute of the International Criminal Court adopted on July 17, 1998, that the United States does not intend to become a party to the treaty. Accordingly, the United States has no legal obligations arising from its signature on December 31, 2000. …’. Nevertheless, the Report on US Practice states that “United States practice recognises the principle of proportionality as part of the customary law of non-nuclear war.”

Thus, even if Rule 14 can be said to reflect customary international law for the purpose of State responsibility in international armed conflicts, the discharge of the persistent objector burden by the non-participating States in API restricts the applicability of the customary international law rule to them as the principle of proportionality inhibits the use of these weapons. As these are some of the most important States in the world in the development of new weaponry in research and development this is an important limitation. Nevertheless, this does not undermine the study of the temporal compression in a commander’s decision-making in proportionality for new weaponry, not only because others of the P5 (e.g. the UK) accept proportionality in international armed conflicts but also because other States that accept proportionality can acquire such new weaponry from the main suppliers.

An important point is that the behaviour of ‘persistent objectors’ in the formation of customary international law is equally as important as that of belligerents, and as a further point of interest, it is noted that the First and Second Gulf conflicts, together with Afghanistan and Iraq, were fought mainly by the armed forces of states not subject to the
rules of API, which renders serious comment on the practical effects of the provisions of API extraordinarily difficult. This paradox is furthered by another issue which remains a severe problem in the LOAC, the difference between international and non-international armed conflicts, although customary international law is certainly not confined to wars, it applies to international armed conflicts and non-international armed conflicts. Referring to the case studies, Kosovo was declared an IAC, with constraints on the application of the rule of proportionality, whereas Iraq and Afghanistan were both NIACS with no constraints on its application. As a result of the Tadic\textsuperscript{557} case, it was felt by the legal community that the facts brought the differences in the two closer together, with the classification of NIACs being more representative of modern warfare.

Thus despite all its attendant problems, evidence continues to prove the importance of customary international law and the existence of the persistent objector. Evidence for the position of proportionality in modern practice is drawn from the three case studies.

5.2.1 proportionality in the Kosovo war

Evidence exists to support the claim that the compression of time through the use of high-speed precision weapons inhibits the effective implementation of the principle of proportionality. Historically there had been disquiet that the security of the civilian in a rapidly changing world was insufficiently determined, leading to the drafting of the 1977 Additional Protocols. Following the NATO intervention, Kosovo was the first armed conflict where the principle of proportionality was specifically mentioned. With API as the relevant treaty, specifically Articles 51(5)(b) and 57(2)(a)(iii) and (b), what these provisions required was an assessment before the attack as to the anticipated military advantage and whether the civilian damage is likely to be excessive in relation thereto; in this case the principle was analysed ahead of the attack over a period of weeks as part of the strategy to limit collateral damage.

Consisting of a variety of both kinetic and precision weapons, together with state of the art C&C centres and radars, these attacks were exceptional in the detail of their pre-planning. Using methods originating in the Vietnam war, the planners employed a regime of precautionary measures, including proportionality, designed to produce minimal damage particularly to civilians. That this strategy worked too well was evidenced in the near destruction of both the Djakovice convoy and the Grdelica bridge.

\textsuperscript{557} above n131 Tadic case.
Conflicting facts and opinions distorted the construction of a clear picture of what had occurred as survivors of the attack, many if not all of the witnesses being medically shocked and disorientated that they were unable to present any coherent recalls of the incident. Nonetheless, with the passage of time a more accurate and stable picture emerges from which credible evidence can be accrued, sufficient to provide in some cases, facts that will support accusations of war crimes. It eventually became clear that efforts were made during these attacks by planners and commanders to enforce the tenets of avoiding “excessive” damage to civilians. The concept of the “margin of discretion” allows for slight variations in decision making, taking into account the particular surrounding circumstances of each case. The final forensic review determined that it was neither reasonable nor feasible to expect the pilot of the US F-15 to make a definitive identification of the targets.

Following the Vietnam War the US government sought a new method, or approach on waging future conflicts. This “Revolution in Military Affairs” reflected the advances made in both civilian and military technology, moving increasingly towards control systems reliant upon space-based platforms. Its stated intention being not to destroy the enemy but achieve a strategic result. This Effects-Based Operations strategy\(^558\) was the move away from the titanic battles between armies to the more agile, responsive, forces of the present day. The variable conditions of warfare as found in Korea and Vietnam made accurate targeting difficult although there were instances of successful specific avoidance tactics by the US Air Force. From information, to the aircrew who use it and the aircraft available. The three basic principles of weapons law remain: first, that the means and methods of warfare are not unlimited; second, the principle of distinction; and third, the principle of humanity which has retained its structure from the Preamble of the St. Petersburg Convention, to the text of API Article 35(2), then to the text of the CCW.

Particular rules apply when several States are working together in unison against a common enemy\(^559\). Intended to reduce misunderstandings and friction between States of differing cultures, languages and political systems, these rules are general in construction and neutral in application. Specifically, in identifying the applicable law, these rules mediate the range of problems that arise when different legal obligations exist among the partners in a combined operation, of importance when it is recalled that it is the control of this lethal force which now underpins the application of the principle of proportionality. “Lethal” due

\(^{558}\) above n306 Clark and Cook.

\(^{559}\) above page 77; text on Combined Training Initiative.
to the fact that the precision weapons currently in use by an increasing number of States, is successful in its accuracy of over 90%.

An additional issue in modern warfare is that of “own side” safety, an aspect of the value system of Western militaries, it was claimed that the pilot was flying at that height to avoid being shot down by the sophisticated Serbian anti-aircraft batteries, which brought down a Stealth bomber later in the conflict. The resulting collateral damage was due to accident, the one element that cannot be factored into any risk element of an ROE. Experts consider that finding an agreed common standard or metric for the principle of proportionality would be a significant step in the general understanding of this principle, with some suggesting a common denominator principle which has the aim of balancing the values found in every proportionality calculation.

Following the incidents of the Djakovice convoy and the Grdelica bridge, the ICC recognizes that attacking civilians and civilian objects now constitutes a war crime, subject to specific criteria being met. However, as recently as 2012, the UN Secretary General noted there had been little progress in protecting civilians from deliberate targeting, indiscriminate or disproportionate attacks, and other violations of humanitarian law. Proportionality continues to perplex those who attempt to interpret and apply it, to the point where even the ICTY Commission reflected on the considerable intellectual difficulties associated with the implementation of the proportionality rule.

The temporal triangle locates at the lowest level, indicating the speed of the slowest aircraft, the US A-10 Thunderbolt with an operating speed of 400mph.

5.2.2 proportionality in the Iraq war

Is the proportionality principle being constrained by pressures of urban warfare, a very different battlespace to that of Kosovo, fought over open country side. The claim that evidence exists to support the claim that the compression of time through the use of high-speed precision weapons inhibits the effective implementation of the principle of proportionality is particularly apt when considering the air and ground battles of Fallujah, and the problems of urban warfare are of increasing importance. In comparison with Kosovo, it was possible to sustain some time for considering the proportionality needs, however the time available for its application was being rapidly reduced.

A noticeable aspect of the battle of Fallujah was the speed and ferocity of the fighting, both ground and air. Within this battlespace, even less time was available for proportionality

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560 above n172 Ronzitti.
561 above n172 Final Report of the Prosecutor….
calculations. In such situations, commanders are allowed a margin of discretion in their calculation; this will contribute to what is now recognised as “reasonable” decision making, moving towards the situation where there is practically no time at all for human intervention.

Every stage of this conflict was planned upon the established rules of western military engagement as applied to the Allied army and air forces, incorporating the rules and proscriptions of the LOAC. It is true however, that the framers of the Additional Protocols were living in a different global era, of the Cold War and the deployment of the earlier versions of precision weapons; yet these rules retain their veracity although it is claimed by some observers that new treaties or conventions are required to deal with the elemental changes fuelled by precision technologies and the evolution of the military drone.

Specific guidelines exist in the LOAC for the formation of a combined operations group of States. In both Iraq and Afghanistan, the operations of such a coalition would on occasion overlap, due to the timescales of the missions. In conjunction with this is the issue of different cultures and languages. With over fifty participating States, the rules deal with this situation by stipulating that the legal obligations of a State do not change when its armed forces are operating in a multinational force under the command and control of a military commander of a different nationality. As these rules are laid down in treaty law and custom, the habit has developed, when a dispute arises among the States, to leave those concerned to reach a compromise.

One example given being, as in the attack on the area of Fallujah which killed IHAT 271, one State may agree to carry out a lethal attack while another may strongly disagree. The operational tasks could be separated, where one State would deploy an aircraft to guide and protect the attacking aircraft deployed by the other State. Reviewing the legality of new weapons, means and methods of warfare, the ICRC made two recommendations; first, that States should have a standing mechanism for an automatic review of new weapons, and second, that this be made mandatory by law or other directive.

In both case-studies, there would be an immense problem in determining whether attacks were launched with such knowledge together with the intention of causing excessive levels of death and injury. Precision weapons were used specifically to avoid such situations, and it was made clear during the pre-planning stage that civilian security was the priority on the commanders list of orders. To this end there is opinion that, in urban warfare, a customary norm is evolving that there is a duty to use precision weapons in preventing excessive

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civilian losses, as under existing law there is no guidance on the subject. Further, Iraq, in its Law of the Supreme Criminal Tribunal (2005), definitively includes the importance of excessive civilian casualties.

During this battle, another issue emphasised was that of information, and the problems this presents to the commander and the planning team. This is one paradox of modern warfare; the more information that is generated to assist him in decision making, the more likely it is to produce the reverse effect, of so overloading the communications systems that they either malfunction or fail entirely, thus depriving him of any information at all. Tacit information requires interpretations, and while supporting “facts” can be easily transferred, the underlying organizing logic can seldom be transferred quickly and easily. There is a computer algorithm which, when inserted into a command and control system of an aircraft can automatically compute a proportionality balancing mechanism, however this is not the same as the pilot making a last-second attempt to avoid civilians within the target zone.

The deployment of US F-16 aircraft equipped with precision weapons produced more “first strike” successes, reducing the necessity of secondary attacks and proportionality runs, with potentially fewer civilian casualties in each particular case. A further advantage of these weapons was the concept of “mass” which controlled the radius of the bomb damage thus limiting the harm to civilians and property. In densely populated zones, with multiple choices of targets, a commander may use alternative weapons to those in the ROE to achieve his aim, such as substituting an airstrike with simple handheld machine guns or rifles to deal with a difficult small-scale target with a high risk of civilian occupation.

This thesis proposes that that the assessment and application of the principle of proportionality during the attack on Fallujah was seriously eroded in so many circumstances, and in so many instances, due to the speed and complexity of the military action, there was very little or no time whatsoever for a commander to begin an assessment during an attack. Similarly, even with the assistance of his tank crew, their commander could on many occasions have little or no time to think either of his own position as commander or that of his position in the overall battle-plan of his platoon of tanks.

Following the battle of Fallujah, any post-engagement assessment would appear difficult given the view that the battle, although short, was complex and problematic and as a result, any research following the battle would find it difficult to sift the truth from the disingenuous. The HPCR states that the principle of proportionality applies throughout all
stages of an attack, from planning to execution.\textsuperscript{563} Anyone with the ability and authority to suspend, abort or cancel an attack must do so once he reaches the conclusion, using the margin of discretion, that the expected collateral damage would be excessive in relation to the anticipated military advantage.

This study does not agree that such steps as creating new conventions would clarify the matrix of proportionality at this stage unless a totally new concept arises. It is felt that the principle of proportionality, when honed down to its basic meaning, is sufficient to communicate the requirement of not harming more civilians than is absolutely necessary. The real problem then is not proportionality itself, but the unintentional shortcomings in the ability to process its meaning within a “human” time-frame.

While API provides the framework for civilian protection in situations of armed conflict, it is in the interpretation of the Articles, that the problems arise. This is never more true than in the case of the principle of proportionality. As in the studies of Kosovo and Afghanistan, the principle itself held its central claim as a protector of civilians during armed conflict, excessive civilian casualties resulting from mistakes by military personnel in recognition and targeting, failures and mis-firings of weaponry, and the interaction of insurgents, the military and the civilian population in the urban space. Fallujah is an excellent example of proportionality being assessed during the attack, a situation likely to be repeated in conditions of urban warfare.

Referring to the temporal triangle, the bar stands at the mid-line, representing the US F-16 fighter, with speeds of up to 1,000 mph; the decision making time available to the commander is reduced by one half.

5.2.3 proportionality in the Afghanistan war
The conflict in Afghanistan supports the claim that evidence exists to support the claim that the compression of time through the use of high-speed precision weapons inhibits the effective implementation of the principle of proportionality. The battlespace differs from both Kosovo and Iraq in that it presented a mix of vast plains and towering mountains with widely scattered settlements and towns. The lingering presence of drones in the skies above Afghanistan being witnesses of the US strategic policy of identifying persons of interest, were all part of the network of surveillance and as such, subject to the temporal requirements of commanders and the teams of lawyers and remote operators which controlled them.

\textsuperscript{563} above n325 HPCR.
The issue of time and distance is inherent in all the stages of this chapter, not only in the last minutes prior to the attack on the group. The thesis question asks whether or not the principle of proportionality is being constrained by the deployment of precision weapons. However, this needs to be qualified by the reality of “proportionality”, determined by the ROE, and in the geographical and political location of the conflict.

Historically there had been disquiet that the security of the civilian in a rapidly changing world was insufficiently determined, leading to the drafting of the two 1977 Additional Protocols; though their efficacy faced their severest tests in this war with the deployment of radically new technologies. Thus proportionality is totally contextual, being affected by every aspect of its surroundings, and this, together with the ongoing debates as to its meaning, makes its assessment doubly problematic.

A further ongoing issue inherent in the doctrine of proportionality is that of semantic vagueness and ambiguity, which leads the narrative back to the basic question of what the principle really means. Terminological imprecision taken to its logical end, marginalizes the precepts of international humanitarian law and therefore creates strong disincentives to its application and enforcement. While accepting such incoherency in the texts, the margin of discretion continues to allow planners and commanders options in decision-making processes.

The principle of proportionality forms part of the information network within which the commanders operate. Drones provide extraordinary levels of intelligence to the military through their technical abilities, but they do not operate without legal boundaries, one expert noting that the operators of drones, even though located thousands of miles distant in the US, remain subject to the same laws of war as are the pilots and operators situated in the actual battlezone, in Afghanistan.

In such cases, how far can command responsibility reach, both geographically and legally. However, the development of such weapons as drones have highlighted the fact that there is at present (2015) little or no law available for regulating their use. It is proposed by one expert that where possible, records of any use of the principle should be retained after the event, thus providing future references for the utility of its use in similar circumstances.

Interlaced with this is the issue of new precision weaponry, and even the language used to describe this area of weaponry is proving ambiguous and contentious and caution is required when moving between weaponry, technology and law. However, the development

564 above n491 Grossman; above n502 Drew.
of such weapons as drones have highlighted the fact that there is at present (2013) little or no law available for regulating their use. It is proposed by one expert that where possible, records of any use of the principle should be retained after the event, thus providing future references for the utility of its use in similar circumstances.

Addressing the use of contemporary precision weapons, it is fair and accurate to assert that today’s aerial munitions (if not ground launched ones) are relatively much more precise on average than those used by US forces 20 years ago. However, this statement is a comparative one, quite different in its implication that the absolute designation of current US military operations as “precision warfare.

During the “persistent surveillance” phase of the drone, the assessment period for the commander, when the movements of the individual are being constantly watched, sometimes for days or even weeks, there would be time for collation and cross-referencing of facts, both old and new, to build up a picture of habitual movements. When the time was ripe for an attack, there would not be time, in the last few seconds to change plans in reaction to the sudden appearance of civilians, as once a precision weapon (the Hellfire missile) is launched, its speed and track to target cannot be changed. It is noted that there is almost a total inability to “call back” drones once the mission is underway. The data obtained from the use of terrain mapping, updates from surveillance aircraft, all the information obtained as part of the dynamic network of information for the commander to use. 565

There are a wide variety of military issues to which proportionality can be exposed, and despite the difficulties faced, the principle endures in that it continues to sustain the link between weaponry and humanity in dealing with civilian populations in wartime, and the pure necessity of achieving the military objective. The delicacy of this weighing operation, described in the previous conflict studies, has not changed throughout the past fifty years; however what has changed is the means and methods of military operations in the air, in the move from traditional weapons to the UAVs.

With the deployment of military drones, these issues become critical. It is recognized that a variety of never-before-anticipated, complex legal, ethical, and political issues have been created-issues in need of prompt attention and action. A further advantage of the deployment of drones is the protection of the attacking force. In their surveillance mode, the cameras and radar trackers provide the soldiers and pilots with real-time information concerning, giving information which may allow escape from a planned ambush for

565 above n475 Marr et al.
example, or the suspicious behaviour of groups near a village. This makes practical sense, for survival means the possibility of later attacks, an advantage to a commander.

In the age of the new wars, the effective use of such technologies will require rapid, effective, and close interaction between many different systems, and instead the human role will take other forms, strategic direction perhaps, or to go to the other extreme, including whether or not to enter hostilities at all. In addition, it is not only the weapons themselves which are becoming faster, but also speed of change is affecting the whole system of military weapons. However, the humanitarian conventions and principles in place at the present time are part of a by-gone age, and in view of the advent of the “new wars” there are commentators who call for new sets of rules which may be required for governance of the LOAC.

However, for proportionality the future may not be so bright in any case, whether or not it can be automised. One expert proposes it is largely ineffective and vague, and offers three reasons for its failures; first, it fails to sufficiently guide a well-intentioned combatant in his actions in the field; second, it fails to adequately protect civilians, and third, it fails to provide a standard for unbiased assessment of the conduct of hostilities.\(^{566}\) Again, the main issue is that of subjective interpretation, particularly in areas as defining key words like “excessive”.

It is widely accepted that there is no overarching definition of “excessive” (civilian casualties) because the variables in the proportionality standard are relative to each other. Nevertheless, the semantic flexibility of the jus in bello proportionality can be a benefit as well as a hindrance in times of hostile activity, as flexibility permits the military commanders the discretion to make choices and to take the risks necessary at the precise moment of military impact, without which he and the planning team could be denied the opportunity of pursuing the military advantage required. This disparate range of views is not surprising given that, as one commentator postulates, that it is too early to determine whether the available new military technologies have influenced the creation or adaptation of established rules of customary IHL.

In considering proportionality in relation to targeting, the principle remains vague and elusive for one major reason at least, because the courts have rarely convicted anyone of violating the proportionality rule, and there are no judicial decisions available on what is, or should be, the exact parameters of proportionality. The risk of indiscriminate attacks increases in such fragmented battlefield situations, and they are similar to proportionality in

\(^{566}\) above n305 Dill.
that they are an “after the attack” forensic inquiry. Article 20(b)(2) of the 1966 ILC Draft Code of Crimes against the Peace and Security of Mankind addresses the situation thus, that the launching of an indiscriminate attack affecting the civilian population and civilian objects in the knowledge that such attack will cause excessive civilian casualties.

There are further threats to the principle, being in the form of so-called “proxy wars” as in Syria, in which small groups of fighters or even individuals act on behalf of a State or some other source of power to weaken the strength of an enemy, these actors displaying little or no regard for the concept of protecting civilians. At present, with the apparent demise of traditional large-scale wars, it is in such small - scale events where there is no knowledge or regard for what are generally accepted universal norms of civilian rights that the future for the principle of proportionality becomes precarious indeed.

In arguing the nexus between proportionality and the issue of time, in assessing these in relation to the deployment of Predator and Reaper drones, the commanders and the lawyers have two paths to follow when preparing the remote controller to affect a strike; they have either plenty of time, or no time at all for a proportionality assessment. For example, in a situation identical to the Dam Gulek attack they may have both, at different stages of the strike.

It is proposed that jus in bello proportionality is unique in its context, and a simplistic attempt to make it operate equally to other usages would largely destroy its utility in the context of modern warfare. This study agrees that this is why the concept of proportionality is a principle and not a rule or imperative; it’s very “vagueness” allows for movements across different real-life situations in differing cultural backgrounds where even the respective militaries have their own military languages.

Several implications arise from this. First, that the principle of proportionality, while its provenance in API remains sound when applied by affirming States, will remain where it is in relation to its development to meet new challenges unless more States publicise their State practice, which at present is very scant. Arguments which support it in its present state will need to recall that the terms of API were drawn up over forty years ago, when the operational ability of aircraft and munitions was considerably less than it is today.

The speed line in the temporal triangle now stands at the highest level, the operating height of remotely-controlled drones, where in many instances the human operator has been removed from the actual theatre of war, particularly where the weapon is remotely controlled, thus indicating the large extent to which proportionality and its sphere of influence has been constrained.
5.3 Status of the principle of proportionality in customary international law

Modern practice in customary international law is classically defined in Article 38(1)(b) of the Statute of the International Court of Justice (‘ICJ’) and comprises two well-established elements: 1) the practice of States; and 2) \textit{opinio juris sive necessitatis} or ‘an opinion as to law or necessity’. Although the existence of this source of law and of these two components is settled, their precise contours are a matter of longstanding and ongoing debate.\footnote{Oeter} It is necessary to forensically sustain claims to the status of customary international law of individual provisions.

The principle of proportionality is traced to Article 51(5)(b) of API to the Geneva Conventions, with scholars claiming that it has attained the status of customary international law (‘custom’). The importance of custom in the field of the law of armed conflict is increasing as treaty frameworks of humanitarian rules are not progressing rapidly enough to adequately address contemporary problems. Moreover, a key problem is the applicability of CIL to those states that are not party to API and other treaties in which the status of proportionality as custom is commonly grounded.

The second change, the increase in importance of customary international law, driven primarily by the lack of State practice in cases classified as non-international armed conflicts, is promoting a large academic response. As the formulation in API has now been superseded by the criminal statute the question arises as to whether the provisions in API as pertaining to custom, are the same as those of Article 8 of the Rome Statute. API states that the sources of custom are found in Article 38 of the Statute of the ICJ, while in the Rome Statute, the applicable provisions are found in Article 21(b) and (c). These are not the same as the two treaties lay down different legal standards for two regimes of responsibility.

Additionally, radical judicial comment is frequently found in Dissenting Opinions, as in \textit{Nuclear Weapons}. Judge Herczeg; Dissenting Opinion; ‘… the entitlement to resort to self-defence is subject to certain constraints, and that there is a specific rule…well established in customary international law’ whereby ‘self-defence would warrant only measures which are proportionate to the armed attack and necessary to respond to it.’; Judge Schwebel; Dissenting Opinion ‘…“disproportionate to what?” it is to the threat posed to the victim State. It is by reference to that threat that proportionality must be measured.” The Court had agreed with the General Assembly’s request for an Advisory Opinion, however,
the Court had replied by a bare majority that it could not answer the question. Assuming that the use of nuclear weapons is lawful, the nature of the weapons, combined by the limitations imposed by the requirements of necessity and proportionality which condition the exercise of the right of self-defence, will serve to confine their lawful use to that extreme circumstance.

Thus, it is submitted that there is widespread acceptance by States of the principle of proportionality as embodied in Rule 14568 as the customary standard for international armed conflicts. It has taken more than 150 years for proportionality to evolve into its present form in API, and ultimately, into the Rome Statute. While the textual divergence between the two instruments potentially reflects a higher standard of proportionality for the purpose of individual criminal responsibility as opposed to State responsibility as reflected in API, the existence of both rules with relatively high numbers of ratifications evinces proportionality in international armed conflicts is accepted as custom, albeit to slightly different standards for two purposes.

Against this judicial background, other agencies contribute to the continuing development of the evaluation of State practice to determine the status of customary international law, including the International Law Commission. In its draft conclusion 12, on custom, the ILC outlines three modes by which a treaty provision can reflect custom: 1) at the time when the treaty was concluded, codifies an existing rule of custom: 2) has led to the crystallization of an emerging rule of custom; or 3) has generated a new rule of custom, by giving rise to a general practice accepted as law.

Further, in its 64th session in 2012, it undertook the ‘identification of customary international law’ as a project in its long-term programme of work, and in his third report, the Special Rapporteur outlined the problems of identifying customary international law based upon underlying treaties: as examples, that the status of customary international law is incorrect, or that customary international law has evolved since the treaty was concluded. It is thus necessary in each case to verify whether the provision in question was indeed intended to codify custom, and whether it reflects customary international law, that is, it is necessary to confirm that the existence of the rule in the opinio juris of states is confirmed by practice. Examining practice outside the treaty, i.e. that of non-parties or of parties towards non-parties, may be particularly important.

568 above n101-Rule 14-Proportionality in Attack; ICRC Handbook.
These disparate issues form part of the jurisprudence of the International Criminal Court, in which the fora for the discussion of customary law is considerably widened. From its central tenet of criminalizing the individual and not the State, to the reception of new words into the lexicon of the ICC (e.g.) “clearly” and “intent”, customary international law is under increased scrutiny, with the literature reflecting the resulting tensions and outcomes.

The legal structure of the ICC is built upon the criminal law systems of domestic courts. Although geographically and culturally different, each contains elements denoting an aspect of human behaviour which will contribute to the guilt or innocence of the accused, one clear element being that of intent. Without provable intent, there can be no crime; nonetheless, intent is an ambiguous standard of knowledge. Intent figures largely in Article 8 of the Rome Statute, together with the other element of “clearly”, which sets this Article apart from the prior example of the principle of proportionality set out in API. To date, there has been no case law in this area.

As noted, the evidentiary standard for custom is at present set by the courts; international courts, domestic courts, and those of the ad hoc Criminal Tribunal type. Referring to the ICTY, which noted that although the Tribunal’s jurisdiction is defined by Statute, reliance on customary law ensures that the principle of legality is respected even where the alleged crimes occurred before the Statute entered into force. Central to the customary law debate remain the two elements of State practice and opinio juris, where the views of commentators oscillate between those who consider both elements are required to fulfil the element of custom, to those with the view that State practice alone is sufficient, and finally to those who support the possibility of “instant” customary law where, due to exceptional circumstances and the absence of relevant law, the issue of State practice needs to be dispensed with. In addition is the question of jus cogens, whose imperative power is informing the debates concerning compliance by both States and individuals.

API provided the foundation for new guidelines within the Military Manuals of individual States and the details of how different States responded during the drafting and ratification of these rules generate issues to the present day. One perennial problem emerging from the negotiations, and which persists to the present day, is the issue of the relationship between the new treaties (API and APII), and customary international law. Thus, it is submitted that there is widespread acceptance by States of the principle of proportionality as embodied in Rule 14 as the customary standard for international armed conflicts.
5.4 Final conclusions

The compression of time through the use of high-speed precision weapons inhibits the effective implementation of the principle of proportionality has been sustained as the core of this thesis. At the final stages of this thesis, it is deduced that two possibilities exist for the future of the principle; first, its continued acceptance and practical application, and second, its potential extinction due to the fact that non-state actors, as in contemporary Syria, appear to be unaware of its existence or, if they are aware, choose to ignore its precepts.

Evidence continues to prove the continuing importance of proportionality in both theory and practice. Referring directly to proportionality, a question could be asked referring to the on-going military situation in Syria; is it possible to apply the principle as traditionally founded in such chaotic situations, or does this pattern of unpredictable attack and withdrawal signify the opening stages of new and uncharted conflict. With the speed of changing political and military events, problems arising previously particularly in Iraq, return in Syria with the issues inherent in urban warfare, specifically the intermingling of military and civilians with the attendant risks of excessive civilian casualties and the question of own side casualties.

Excessive civilian casualties remain a priority for Western forces. Efforts however, have been made to limit these by the US government. By setting a limit of 40 civilian casualties as an acceptable loss in each identified strike, this containment is intended to restrict the numbers of forensic reports which may be demanded by family relations and human rights agencies following what may be considered a contentious attack. Even so, the word excessive remains the target of consistent criticism by both practitioners and authors.

The evolution of precision weaponry has developed in tandem with the modernisation of proportionality. Beginning with Kosovo, with the merging of traditional kinetic armaments with modern precision weapons; with Iraq and the use of air and ground precision weapons in urban situations; and to Afghanistan with the burgeoning of drone warfare and interacting systems, the speed of development is historically unsurpassed. Whether or not the abilities of human planners and commanders can keep abreast of this prospect remains a singular challenge for the principle of proportionality and the law of armed conflict as a whole. Referring to the speed/time ratio, the vast amount of information required to populate the structure of this thesis reflects the necessity of some “representation” capable of summarising this mass into a simple diagram. It is proposed the temporal triangle fulfils this requirement, and each viewer will read into the background his own interpretation of the military operations.
In Western states, the principle of proportionality remains accepted as a basic pillar of the LOAC. Nevertheless, with the advent of belligerent non-state actors, it is proposed that proportionality may have reached what may be called its end-state. Historically, it had developed from the concept of constant care in the principle of distinction; a theory developed into an ethical norm and kept alive by actors who adhere to its tenets.

Despite challenges to both theory and application, it continues to reflect the balancing of military strategy with the safety of civilians in conflicts, with even naysayers to API conceding that something similar is essential when conflict does break out. It is noticeable that this concept holds with Western militaries, however, with the rise of belligerent non-State actors it faces its most critical and possibly fatal test. Practices by non-state actors in Syria, Yemen and Libya indicate that the principle has reached its end-state. In such situations, unable as a principle to regress, neither can it cannot go forward, as is its natural crusade. It is neither recognized nor applied. It has reached its end-state.\(^{569}\)

As evidenced in the three case-studies, the compression of time through the use of high-speed precision weapons is inhibiting the effective implementation of the principle of proportionality. Additionally, further challenges to the status of proportionality continues, with eruptions of new wars as in Syria, Yemen and Iraq. It is within this increasingly unstable global background that the principle of proportionality deserves further research into both its theory and application.

\(^{569}\) See also; J Kieler ‘The End of Proportionality’ (2009) Parameters 53-64.
# ABBREVIATIONS

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<thead>
<tr>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>ADF</td>
<td>Australian Defence Forces (ADF) in Afghanistan</td>
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<td>AFLR</td>
<td>Air Force Law Review</td>
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<td>AJIL</td>
<td>American Journal of International Law</td>
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<td>CIVCAS</td>
<td>Civilian Casualties</td>
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<td>CFLCC</td>
<td>Combined Forces Land Component</td>
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<td>CDDH</td>
<td>Steering Committee for Human Rights</td>
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<td>Denv.J.Int.L.&amp;Pol’y</td>
<td>Denver Journal of International Law &amp; Policy</td>
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<td>IHL</td>
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<td>ISR</td>
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<td>JDAM</td>
<td>Joint Direct Attack Munition</td>
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<td>JFACC</td>
<td>Joint Force Air Commander</td>
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<td>Abbreviation</td>
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<td>JFO</td>
<td>Joint Forces Quarterly</td>
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<td>JSCL</td>
<td>Journal of Conflict and Security Law</td>
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<td>JTAC</td>
<td>Joint Tactical Air Command</td>
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<td>Office of the Prosecutor</td>
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<td>Remotely Piloted Aircraft</td>
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